GE Interlogix

Kalatel DSR-2000*e*

Single Channel Color Digital Video Recorder

User Manual

WARNING!

To prevent fire and electric shock, do not expose this product to rain or moisture.

The lightning flash with the arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that maybe of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION!

To prevent electric shock, do not remove cover.
No user serviceable components are inside.
Refer servicing to qualified service personnel.

CAUTION! Lithium Battery

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

ATTENTION

This product contains a recyclable lithium battery. It may be illegal to dispose of this battery improperly under local, state, or federal laws. Check with your local waste management officials for disposal and recycling options.

CAUTION!

Electrostatic-Sensitive Device!

Use proper CMOS and MOSFET handing precautions, including approved grounded wrists straps, etc., to avoid damage to this unit or its internal components, from electric discharge.

WARNING!

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions in this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to subpart J of part 15 of FCC rules which are designed to provide reasonable protection against such interference when operated in a commercial environment. This equipment has also been tested and found to comply with the requirements for a CE Class A device and TUV safety standards.

Operation of this equipment in a residential area may cause interference, in which case the user is required to take all measures that are necessary, at the user's expense, to correct the interference.

IMPORTANT INFORMATION

Software and/or firmware is furnished to the purchaser under a license for use on a single system. Software and/or firmware included with this equipment are the sole proprietary property of, confidential to, and copyrighted by GE Interlogix, Corvallis, Oregon, USA. The software/firmware are not to be copied or disclosed in any manner without the express written consent of GE Interlogix.

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1 FEATURES, CONNECTIONS, AND SETUP

1.1 Product Description

The DSR is a Digital Video Recorder designed to be a direct replacement for a Time Lapse VCR. Digital Video Recording allows the user to have continuous recording on a hard disk, without the need for replacing or rewinding of videotapes. The DSR provides menu based search capabilities for recorded events, as well as access to live or recorded data via the Ethernet.

1.2 Features

- Single channel VHS or SVHS Input / Output connection.
- Accepts Single Camera input or a Multiplexed input from most popular multiplexers.
- Compatible with Color or Monochrome cameras.
- Records up to 60 pictures per second (NTSC) or 50 pictures per second (PAL).
- Continuous Recording in Disk Overwrite mode.
- LCD on front panel indicates Time, Date, Mode, and Record Speed in pps.
- Video Archiving via the unit's SCSI port.
- Access to Live or Recorded video via the Ethernet.
- Continues Recording while Archiving, transmitting via the Ethernet, or during Playback.
- A simple on-screen menu system.
- Includes WaveReader software for viewing Live or Recorded images on a PC.
- Timed recording.
- Audio Recording.
- Programmable Auto Delete Mode.
- Auto-Daylight savings time change function.
- Clock synchronization with Network Server.
- Integrated WaveBrowser Software.
- Dynamic IP addressing (DHCP).

1.3 Unpacking

Check the package and contents for visible damage. If any components are missing or damaged, contact the supplier immediately. **Do not attempt to use the unit.** If, for any reason they must be returned, the contents must be shipped in the original packaging.

Package Contents

- The DSR unit.
- Accessories PCB.

- The DSR user manual.
- WaveReader software with User Manual.
- Archiving Addendum.

1.4 Installation Environment

Power: Ensure that the site's AC power is stable and within the rated voltage of the external power supply. If the site's AC power is likely to have spikes or power dips, use power line conditioning or an Uninterruptable Power Supply (UPS).

Ventilation: Install the unit in a well-ventilated area. Take note of the locations of the cooling vents in the unit's enclosure, and ensure that they are not obstructed.

Temperature: Observe the unit's ambient temperature specifications when choosing a location space. Extremes of heat or cold beyond the specified operating temperature limits may cause the unit to fail. Do not install the unit on top of other hot equipment.

Moisture: Do not expose the unit to rain or moisture. Moisture can damage the internal components. Do not install this unit near sources of water.

Chassis: You can place other equipment on top of the unit if it weighs less than 35 pounds.

1.5 Passwords

Figure 1-1 Passwords

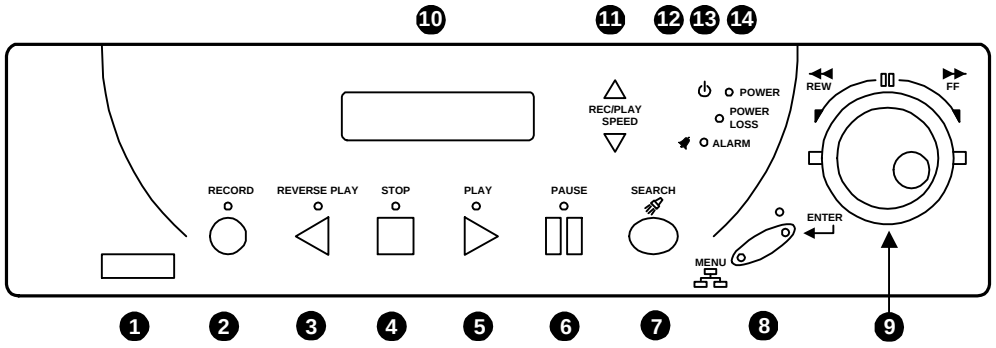
Password Name	Function	Changeable by user?	Password
Advanced Menu Password	Provides access to the Advances menu for the installer.	Yes: See page 5-8	**3 4 7 7**
Factory Password	Restores the unit to the factory defaults.	No	**8 1 1 1**

A password is provided to limit access to the Advanced menu. It is recommended that the default password be changed after installation is complete. As a security measure, store the password in the administrator's secured files or in a limited access area. For instructions on entering the Advanced menu with the password see section **4.7 Main Menu ® Advanced Menu** on page 4-15.

A password is also provided to return the unit to the factory defaults. For instructions on returning the unit to the factory defaults, see section **5.9 Advanced Menu ® Factory Settings** on page 5-8.

1.6 Front Panel Controls

Figure 1-2 Front Panel



1. **Infrared Port:** This feature is not yet available.
2. **Record button:** Press this button to begin recording.
3. **Reverse play button:** Press this button to playback video in reverse at the normal record speed.
4. **Stop button:** Press this button to stop Recording or Playback.
5. **Play Forward button:** Press this button to playback video at the normal record speed.
6. **Pause button:** Press this button to pause playback.
7. **Search button:** Press this button to enter the Search Filters menu.
8. **Combination Menu and Enter button:** Press the lower half of the button (the **Menu** button) to enter the Menu system. Also used to "Exit without saving" while in the menu system.

   --OR—

   Press the upper half of the button (the **Enter** button) to make or confirm a selection in the menu system.
9. **Jog / Shuttle:** The **Jog** (the inner of the two dials) is used for single frame advance while in Pause mode, it is also used to change the value of a parameter while in the menu system. The **Shuttle** (the outer of the two dials) is used to Fast Forward and Rewind while in the Play mode. The **Shuttle** is also used to navigate while in the menu system.
10. **LCD:** Displays the Time, Date, Mode, and Record or Playback speed in pictures per second (pps).
11. **Increase and Decrease Record Speed buttons:** Press these buttons to increase or decrease the Record or Playback speed.
12. **Alarm Indicator:** Indicates an alarm condition when the LED is lit.
13. **Power Loss Indicator:** Indicates power loss when LED is lit.
14. **Power On Indicator:** Indicates power is on when LED is lit.

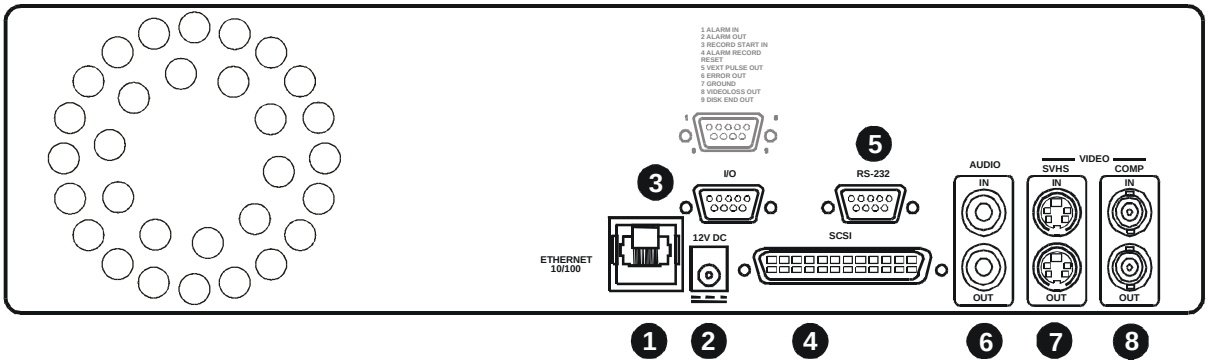
1.7 Front Panel Display

Figure 1-3 LCD

1. **Time:** Displays current time in Record and Stop mode. Displays time the event was recorded in Play and Pause modes.
2. **Date:** Displays current date in Record and Stop mode. Displays date the event was recorded in Play and Pause modes.
3. **Mode:** Displays the mode (Record, Play, Pause, Stop, Etc.) the unit is in.
4. **Record Speed:** Displays the normal record or playback speed in pps.

1.8 Back Panel Connections

Figure 1-4 Back Panel



1. **Ethernet Port:** For viewing Live or Recorded images on a PC via the Ethernet.
2. **Power Connector:** Connect 12 Volt DC external power supply.
3. **I/O Port:** For connecting peripheral devices such as alarm devices, alarm relays, or the VEXT connection.
4. **SCSI Port:** For connecting an SCSI compatible archive device.
5. **RS-232 Serial Port:** Serial port for Flash Upgrading of software. Also for external control of unit.
6. **Audio In:** RCA jack, 315mV, 40k Ohms. Unbalanced.

   Audio Out: RCA jack, 315mV, 600 Ohms. Unbalanced.
7. **SVHS In:** Y/C video input with 4-pin mini-DIN style connector.

   SVHS Out: Y/C video output with 4-pin mini-DIN style connector.
8. **Video In:** Composite video input with BNC style connector.

   Video Out: Composite video output with BNC style connector.

Caution: Do not connect both video inputs at the same time.

Ethernet Port

The cable connection configuration depends on your network configuration:

- For a DSR that connects directly to a Hub, use a Straight Through connection.
- For a DSR that connects directly to a PC, use a Cross Over connection.

Consult with your MIS personnel for the specific type of configuration. See section 5.5 Advanced Menu → Communications for information about configuring the ethernet settings in the menu system.

Wire Type: Cat 5

Connector Type: RJ-45

Max Cable Length: 100 feet / 30.5 meters

Minimum Cable Length: 6 feet / 1.8 meters

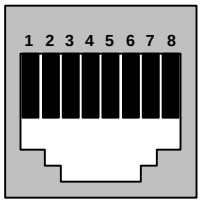
Hub Wiring Configuration: Straight Through

PC Wiring Configuration: Cross Over

RJ-45 Pin Configuration for Ethernet Port

Pin	Use
1	TX+
2	TX-
3	RX+
4	Not Connected

Pin	Use
5	Not Connected
6	RX-
7	Not Connected
8	Not Connected



RJ-45 Connector on Back Panel

Power Connector

Power Supply Input
Voltage: 120 to 240 Volt AC
Tolerance: ±10%
Frequency: 50 to 60 Hz

Power Supply Output
Voltage: 12 Volt DC
Power: 35 Watt
Connector: 2.1mm barrel, Center Positive

SCSI Port

The unit is equipped with a SCSI port for connecting external archive devices. The unit only supports a single SCSI device. The SCSI ID must be set to 0.

The SCSI bus must be terminated, otherwise the system will not operate properly.

Additional menu setup may be necessary to configure archive device. See **section 4.6 Main Menu ® Archive Setup.**

Connector: 50 Pin, High Density SCSI-2.

Gender (on unit): Female

Compatible devices: DAT, AIT, CD-R, CD-RW

Autoloader Support?: No

SCSI ID: 0

RS-232 Serial Port

Use a Null Modem cable when connecting to a PC. When connecting to a multiplexer, it may be necessary to construct a cable using the pin-out documentation of the MUX as a guide. See the pin-out configuration for the DSR below.

Connector Type: DB-9

Gender (on unit): Male

Cable Required (Connected to PC): Null Modem

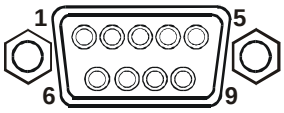
Cable Required (Connected to Multiplexer): Variable, depending on pin-out configuration of MUX.

DB-9 Pin Configuration for Serial Port

Pin	Use
1	DCD
2	RX
3	TX

Pin	Use
4	Not Connected
5	Ground
6	Not Connected

Pin	Use
7	RTS
8	CTS
9	Not Connected



DB-9 Connector on Back Panel

Video Input and Output

The unit is equipped with both Y/C and Composite inputs and outputs. The video inputs are auto terminating.

The SVHS input is Active Looping, and will only loop while the unit is on.

Do not connect both video inputs at the same time.

SVHS Input: 4-pin Mini-DIN connector.

SVHS Output: 4-pin Mini-DIN connector.

SVHS Looping: Only while unit is On.

Composite Input: 75 Ohm BNC connector.

Composite Output: 75 Ohm BNC connector.

Composite Looping: Yes, while unit is On or Off.

1.9 Accessories I/O Port

The back panel of the unit is equipped with an Accessories Port (DB-9 style connector). Connect the Accessories PCB (supplied with the unit) to the Accessories Port. Wire all accessories to the Accessories PCB.

Do not attempt to wire accessories directly to the DB-9 connector.

If the Accessories PCB is lost or missing, contact GE Interlogix Customer Service for a replacement (Part Number 0900-0127a). As a substitute, purchase a female DB-9 connector and make all connections as shown in this section.

DB-9 Connector on Back Panel

Pin 1: Alarm In.

Pin 2: Alarm Out.

Pin 3: Record Start In.

Pin 4: Alarm Record Reset.

Pin 5: VEXT Pulse Out.

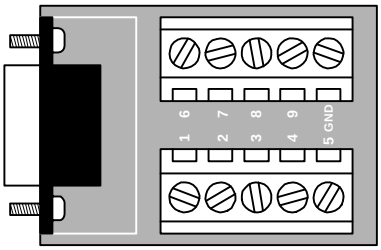
Pin 6: Error Out.

Pin 7: Ground.

Pin 8: Videoloss Out.

Pin 9: Disk End Out.

Pin 10: Ground.



Accessories PCB

Alarm In

An alarm condition can be activated by an Active Low TTL input or by relay contact devices such as pressure pads, passive infrareds, door switches, or other similar devices.

Input: Active Low TTL w/ pull-ups or Normally Open Relay.
High: 5V (12V tolerant)
Low: Ground

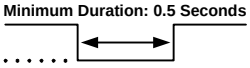
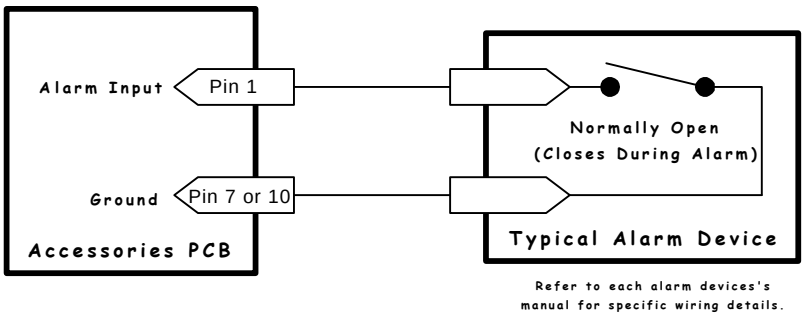


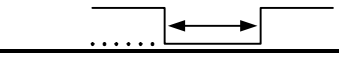
Figure 1-5 Normally Open Relay Alarm Connection



Alarm Out

The Alarm output is activated when a teletext alarm is detected, or while the Alarm Input is active. The Alarm output is only active for the duration of the alarm event.

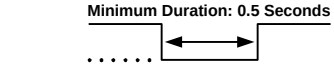
Output: Active Low
High: 12V
Low: Ground
Current Out: 50mA Max
Short Circuit Protected.



Record Start In

Record Start In will place the unit in Record mode when activated. Compatible with the Disk End Out signal from a second unit.

Input: Active Low TTL w/ pull-ups or Normally Open Relay.
High: 5V (12V tolerant)
Low: Ground



Alarm Record Reset

This feature is for future development, and has not yet been implemented.

VEXT Pulse Out

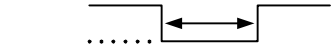
The Video External Pulse connection (VEXT) simplifies multiplexer operation by automatically synchronizing the Multiplexer and the DSR.

The DSR sends a VEXT pulse to the Multiplexer indicating that it is ready to record the next image. The Multiplexer responds by sending the next image to the Video Input on the DSR.

The VEXT connection is especially beneficial for units configured with dual record speeds (Normal and Alarm).

Use of the VEXT connection is Highly Recommended when connecting the unit to a multiplexer.

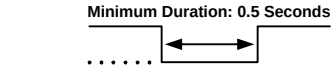
Output: Active Low
High: 5V
Low: Ground (0.8V Max)
Current Out: 50mA Max
Short Circuit Protected.



Error Out

The Error Out signal is activated when the unit experiences any operational or internal error.

Output: Open Collector
High: Transistor Off
Low: Transistor On
Active When On.
Current Out: 10mA Max

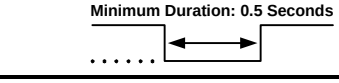


Videoloss Out

The Videoloss Out signal is activated when the unit experiences videoloss on the selected video input (Composite or SVHS).

In the event of videoloss, **VIDEOLOSS** will be indicated near the upper left hand corner of the primary monitor.

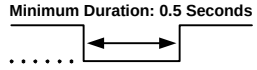
Output: Open Collector
High: Transistor Off
Low: Transistor On
Active When On.
Current Out: 10mA Max



Disk End Out

The Disk End Out is activated when there is 5 minutes of recording space left on the hard disk. It will also be activated if a DAT or AIT tape archiving device is connected, and the tape end is encountered. The DSR must be in Record mode, with Background Archiving ON, and set to Continuous Overwrite mode.

Output: Open Collector
High: Transistor Off
Low: Transistor On
Active When On.
Current Out: 10mA Max



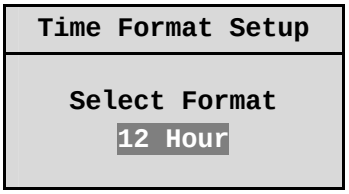
1.10 Setting the Time and Date

It is recommended that, as a minimum, the following menu items be configured before using the unit. For detailed information about using the menu system, see section 3.

❑ Main Menu ® Time/Date ® Set Time Format

To set the Time format, use the **Jog** to select the desired Time format. Format the time as either:

- **12 HOUR**
- **24 HOUR**



Press the **Enter** button to confirm the selection and exit the menu.

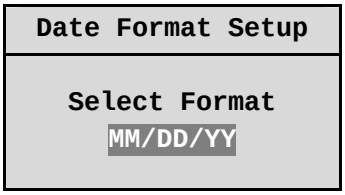
--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Time/Date ® Set Date Format

To set the Date format, use the **Jog** to select the desired Date format. Format the Date as either:

- **DD/MM/YY**
- **MM/DD/YY**
- **YY/MM/DD**



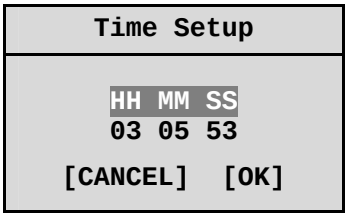
Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Time/Date ® Set Time

To set the Time:

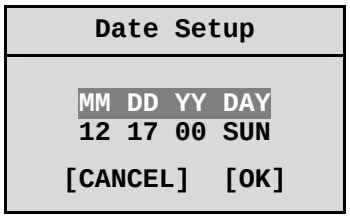


1. With **HH MM SS** highlighted, press the **Enter** button. The highlighting will move to the row of numbers.
2. Enter the time in Hours, Minutes, and Seconds. Use the **Jog** to change the values. Use the **Shuttle** to navigate among the three fields.
3. Press the **Enter** button to confirm the selection.
4. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

--OR--

5. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

❑ Main Menu ® Time/Date ® Set Date



To set the Date:

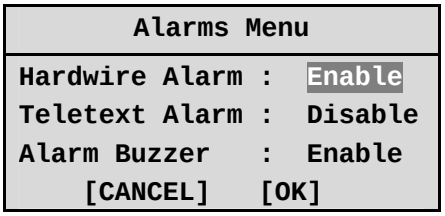
1. With **MM DD YY DAY** highlighted, press the **Enter** button. The highlighting will move to the row of numbers.
2. Enter the date in Months, Days, Years. Day of the Week will update automatically. Use the **Jog** to change the values. Use the **Shuttle** to navigate among the three fields.
3. Press the **Enter** button to confirm the selection.
4. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

--OR--

5. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

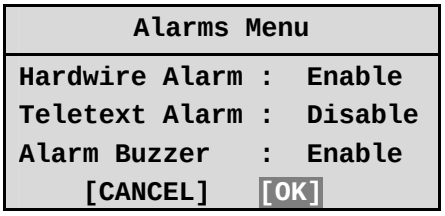
1.11 Setting the Alarms

❑ Main Menu ® Alarms



Use this menu to specify:

- Whether an alarm condition will be activated when the unit detects a signal on the Alarm In connection.
- Whether a teletext alarm signal (generated by a multiplexer or other device) will cause the unit to activate an alarm condition.
- Whether the internal buzzer is activated during an alarm condition.



To configure the alarm settings:

1. Use the **Shuttle** to navigate among the fields.
2. Use the **Jog** to change the values of the highlighted fields.
3. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

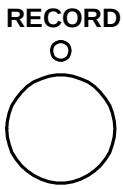
--OR--

4. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

2 USER OPERATIONS

2.1 Recording

To begin recording, press the **Record** button. **RECORD** will be indicated for three seconds, near the upper left hand corner of the primary monitor. The unit always starts recording at the end of the previously recorded data.



Record button

Recording will continue until:

- Another mode is selected (Play mode, or Stop mode).
- The disk is full (In No Overwrite and Overwrite Once modes). See section **5.1 Advanced Menu ® Disk Overwrite Mode** on page 5-1, for details regarding Disk Overwrite modes.

Figure 2-1 LCD in Record mode

1. Current time.
2. Record time left until disk full.
3. Record Mode Indicated.
4. Normal Record Speed in Pictures Per Second. If the letter **A** precedes the record rate, the unit is configured to record or playback audio.

Normal Recording

The unit records at the normal record speed until an alarm condition is detected. The normal record speed is indicated on the LCD, and can be altered using the **Up/Down Record Speed** buttons, or in the menu system.

Record Speed buttons

For information about altering the normal record speed from the menu system, see **Main Menu ® Record Settings ® Normal Record Speed**, on page 4-7 of the Operator Programming section of this manual.

The normal record speed can be altered while the unit is recording. The unit will continue recording while the menu system is active.

Alarm Recording

When an alarm condition is detected, the unit automatically switches to the alarm record speed. The alarm condition is indicated in several ways:

Alarm Indicator

- With the word **ALARM**, displayed on the primary monitor, near the upper left hand corner of the screen.
- With the LED Alarm Indicator on the front panel of the unit.
- With the internal buzzer (if activated in the menu system). For information about activating the internal buzzer during alarms, see **Main Menu ® Alarms** on page 4-3 of the Operator programming section of this manual.
- By an external device, connected to the alarm output of the unit (if the unit is installed that way).

The alarm record speed cannot be changed using the **Up/Down Record Speed** buttons on the front panel. The alarm record speed must be changed in the menu system. For information about altering the alarm record speed, see **Main Menu ® Record Settings ® Alarm Record Speed**, on page 4-7 of the Operator Programming section of this manual.

The front panel LCD displays the normal record speed during and alarm condition.

The unit returns to the normal record speed when the alarm condition ends.

Disk Nearly Full Notification

This message will appear on the primary monitor to indicate that the unit has stopped recording, because the disk is full.

Message
Disk Full. Recording Has Stopped.
[OK]

In No Overwrite mode: The user must acknowledge the on-screen message by pressing the **Enter** button.

Unit will not record over previously recorded data. To continue recording, the data must be erased (or deleted) in the **Advanced ® Disk Maintenance** menu.

In Overwrite Once mode: The user must acknowledge the on-screen message by pressing the **Enter** button.

The unit will continue recording again when the user presses the **Record** button.

2.2 Playback

Figure 2-2 LCD during playback

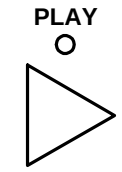
1. Time the data was recorded.
2. Date the data was recorded.
3. Play Forward mode indicated.
4. Normal record speed in Pictures Per Second. If the letter **A** precedes the record rate, the unit is configured to record or playback audio.

Play Forward

To begin normal playback, press the **Play Forward** button. The unit will begin playing back data from the beginning of the last recording session.

Playback is indicated:

- As **PLAY** near the upper left hand corner of the primary monitor, for three seconds.
- As **PLAY>** on the LCD.



Play Forward button

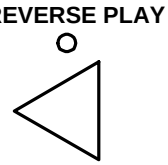
Reverse Play

To begin reverse playback, press the **Reverse play** button. The unit will begin playing back data from the beginning of the last recording session.

Reverse playback is indicated:

- As **REVERSE PLAY** near the upper left hand corner of the primary monitor, for three seconds.
- As **PLAY<** on the LCD.

If there is only one recording session on the hard disk, the unit will indicate **START OF DATA** on the primary monitor.



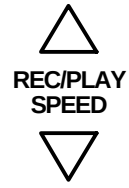
Reverse play button

Playback Speed

The unit will playback the data at the rate it was recorded. The user can alter the playback speed using the **Up/Down Record Speed** buttons.

Altering the playback speed overrides any change in playback speed that would occur due to an alarm condition in the playback. To clear the override, press the **Stop** button, then press the **Play** button to resume playback at the speed the data was recorded.

The playback speed is indicated on the LCD in Pictures Per Second.



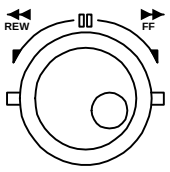
Record Speed buttons

Fast Forward

During playback, rotate the **Shuttle** clockwise to view the data at a Higher than normal rate. Increasing the amount of rotation increases the rate of playback.

Fast Forward is indicated:

- As **FAST FORWARD** near the upper left hand corner of the primary monitor, for three seconds.
- As **FFWD** on the LCD.



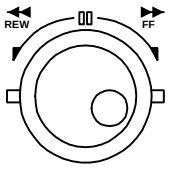
Jog / Shuttle

Rewind

During playback, rotate the **Shuttle** counter-clockwise to view the data (in reverse) at a Higher than normal rate. Increasing the amount of rotation increases the rate of playback.

Rewind is indicated:

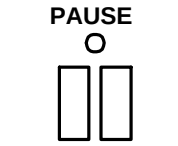
- As **REWIND** near the upper left hand corner of the primary monitor, for three seconds.
- As **REW** on the LCD.



Jog / Shuttle

Pause

During playback, press the **Pause** button to pause playback, and display a single frame on-screen.



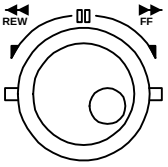
Pause button

Pause is indicated:

- As **PAUSE** near the upper left hand corner of the primary monitor, for three seconds.
- As **PAUSE** on the LCD.

Single Frame Advance & Single Frame Rewind

During Pause mode, rotate the **Jog** dial to view the frame directly before or after the frame displayed on-screen.



Jog / Shuttle

AutoPause

During playback, moving the **Jog** (the inner dial) in any direction will freeze playback. Depress the **Freeze** or any Play button to continue playback.

Start of Data & End of Data

If the start or end of data is reached during playback, **START OF DATA** or **END OF DATA** is indicated near the upper left hand corner of the primary monitor.

2.3 The Search Interface

The Search Interface feature allows the user to search the hard disk for recorded events, such as an alarm condition, or a previous recording session. For example, each time Record mode is activated, it is considered a separate recording session.

Search button

To enter the Search Filters menu, press the **Search** button. The Search Filters menu is displayed on the primary monitor.

Use this to specify:

- The Start and Stop date of the search.
- The Start and Stop time of the search.
- Which cameras to search exclusively.
- To search for recorded alarms.

Search Filters			
	Start	Stop	
DATE:	12/25/00	01/01/01	[ ]
	(MM/DD/YY)	(MM/DD/YY)	
	Start	Stop	
TIME:	11:11:21	12:34:34	[ ]
	1 2 3 4 5 6 7 8		
CAMERA:	[ ][ ][ ][ ][ ][ ][ ][ ]		
ALARM:	[ ]		
	[CANCEL]	[START SEARCH]	

Searching for All Recorded Events

Using the **Shuttle** to navigate, highlight **[START SEARCH]**, then press the **Enter** button. The Search Results window will appear. For information about selecting a recorded event, see **Selecting from the Search Results**, in this section.

2.4 Specifying Search Parameters

Selecting a Start and Stop Date

1. Using the **Shuttle** to navigate, highlight the **DATE** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop date values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop date parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting a Start and Stop Time

1. Using the **Shuttle** to navigate, highlight the **TIME** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop time values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop time parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting Cameras to Search

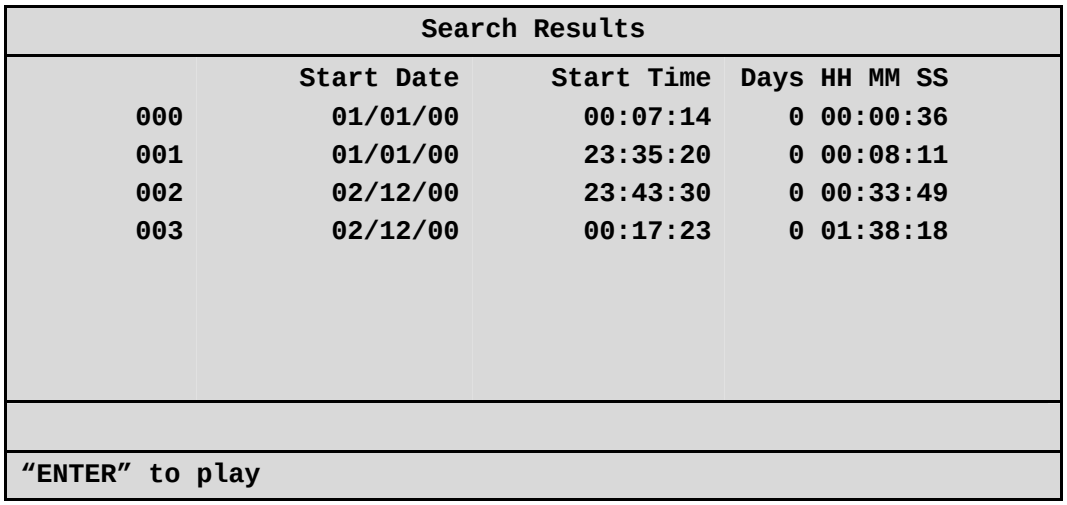
1. Using the **Shuttle** to navigate, highlight the **CAMERA** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Shuttle** to navigate among the different cameras.
3. Use the **Jog** to select a camera (or cameras) by placing an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Searching for Recorded Alarms

1. Using the **Shuttle** to navigate, highlight the **ALARM** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to activate the alarms search, by placing an **[X]** in the check box.
3. Press the **Enter** button at any time to exit Edit mode.

Starting the Search

Using the **Shuttle** to navigate, highlight the **[START SEARCH]** parameter, then press the **Enter** button. The Search Results menu will appear.



Selecting from the Search Results

Use the **Shuttle** to select a recorded event.

Press the **Enter** button to select the event, or press the **Menu** button to exit the Search Results menu.

3 THE MENU SYSTEM

This section provides a brief overview of the menu system, for complete information about Operator and Installer programming, see section **4: Operator Programming**, or section **5: Installer Programming**.

How to use this Manual

Throughout this manual, there are headings like these.

❑ Main Menu ® Timer Settings

Meaning: From the Main menu, select **TIMER SETTINGS**, then press the **Enter** button. A Pop-up or Pull down menu will appear.

❑ Main Menu ® Record Settings ® Normal Record Speed

Meaning: From the Main menu, select **RECORD SETTINGS**, then press the **Enter** button. This opens another menu. In this menu, select **NORMAL RECORD SPEED**, then press the **Enter** button.

A Pop-up or Pull down menu will appear.

Pull-down Menus

Pull-down menus are the top-level menus. Make a selection in a Pull-down menu to enter the appropriate sub-menu (typically a Pop-up menu). Changes to the unit's parameters are usually made in Pop-up menus.

To exit a Pull-down menu, press the **Menu** button.

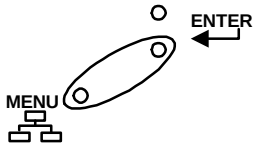
Pop-up Menus

Pop-up menus usually have a parameter (or several parameters), from which the user can make a selection or change the value.

Use the **Shuttle** to select a new parameter, use the **Jog** to change the value of that parameter.

To Save changes and Exit the menu: Select **[OK]**, the press the **Enter** button.

To Exit the menu without making changes: Press the **Menu** button or select **[CANCEL]**, then press the **Enter** button.



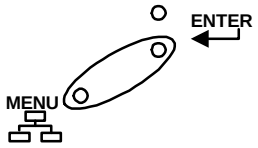
Menu button

In some boxes, items are highlighted on the screen. They are represented in this manual as follows:

Not highlighted:	**Highlighted:**
TIME/DATE	ALARMS

Entering the Main menu

Enter the Main menu by pressing the **Menu** button. The Main menu will appear on the primary monitor.



Menu button

The Main Menu

The Main menu provides access to all of the operator programmable options. Each sub-section of the Main menu is described briefly in this section.

For complete information about operator programming in the Main menu, see section 4.

```
Time/Date
Alarms
Timer Settings
Record Settings
Display Settings
Archive Setup
Advanced Menu
About
```

❑ Main Menu ® Time/Date

Use this menu to specify:

- The time format: 12 or 24 hours.
- The date format: MM/DD/YY, DD/MM/YY, or YY/MM/DD.
- The time.
- The date.
- Set the Region for the Auto Daylight Savings Time feature.
- Setup clock synchronization between the DSR and the Network Server.

```
Set Time Format
Set Date Format
Set Time
Set Date
Set Region
Set Network Time Protocol
```

❑ Main Menu ® Alarms

Use this menu to specify:

- Whether an alarm condition will be activated when the unit detects a signal on the Alarm In connection.
- Whether a teletext alarm signal (generated by a multiplexer or other device) will cause the unit to activate an alarm condition.
- Whether the internal buzzer is activated during an alarm condition.

```
      Alarm Setting
Hardwire Alarm :  Enable
Teletext Alarm :  Disable
Alarm Buzzer   :  Enable
    [CANCEL]   [OK]
```

❑ Main Menu ® Timer Settings

This menu allows the user to program a timed-recorded event. Use this menu to specify:

- The date, or days on which the recording will occur.
- The start and stop time.
- The record speed.
- The record quality.
- Whether the event is enabled.

DAY	START	STOP	SPD(pps)	QUALITY	ON/OFF
31	16:45	17:05	20	High	On
SAT	07:55	08:10	10	Med	Off
MON-FRI	09:56	11:05	60	Low	On
SAT-SUN	14:23	14:50	60	High	On
MON-SUN	02:23	03:34	20	Med	Off
--	--:--	--:--	--	--	--
			[OK]		

EDIT Mode Hit "ENTER" To Toggle EDIT Mode

❑ Main Menu ® Record Settings

Use this menu to specify:

- Which video input on the back panel is activated.
- Color or Monochrome recording.
- The record speed during Normal recording.
- The record speed when the unit detects an alarm condition.
- The recorded picture quality.

Video Input
Color/Mono
Normal Record Speed
Alarm Record Speed
Video Quality

❑ Main Menu ® Display Settings

Use this menu to specify what status information will be displayed on the primary monitor. Select On or Off, for the following items.

- The current time and date.
- The remaining amount of time before the hard disk runs out of record space.
- The Archive Status.
- The time and date of the last alarm.
- The Record or Playback Speed.
- During Playback, the time and date the recording was made.

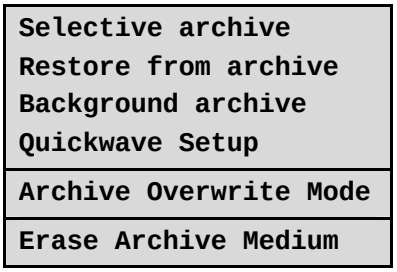
Current Time / Date
Record Capacity
Archive Status
Last Alarm
Record Playback Speed

Playback Time / Date

❑ Main Menu ® Archive Setup

Use this menu to:

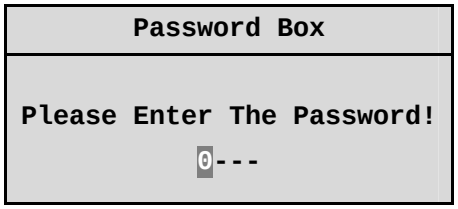
- Select data to be archived and begin archiving process.
- Restore data from archive device.
- Enable background archiving.
- Enable or Disable QuickWave Setup.
- Specify how the unit will handle overwrite issues when the archive medium becomes full.
- Erase the archived data.



❑ Main Menu ® Advanced Menu

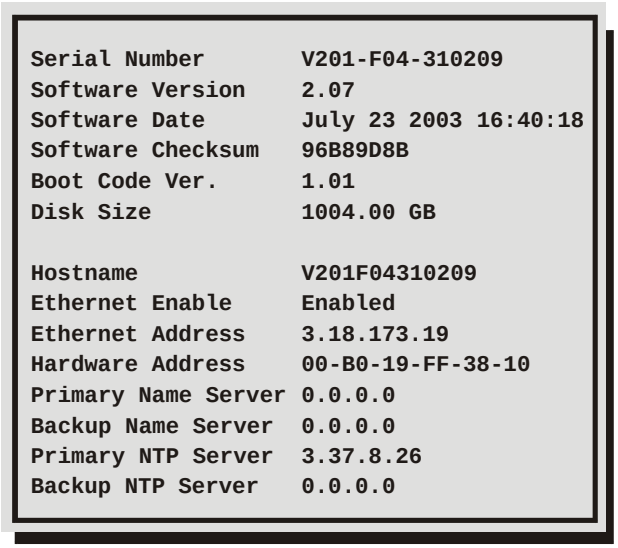
To access the Advanced menu:

1. Select **ADVANCED MENU** from the Main menu, then press the **Enter** button. The Password Box will appear.
2. Enter the Advanced menu password. Use the **Jog** to select a character, then use the **Enter** button to complete the selection, and move to the next character.
3. Pressing the **Enter** button on the last character will complete the password selection and the unit will display the Advanced menu.



❑ Main Menu ® About

Use this menu to display information about the DSR. Select **Main Menu ® About** to display the About DSR screen.

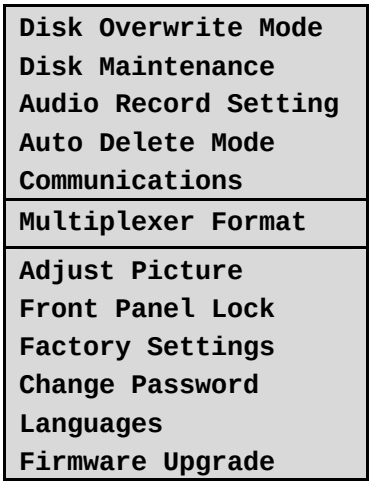


The Advanced Menu

For security reasons, a password is provided to limit access to the Advanced menu. For instructions about entering the Advanced menu, see **Main Menu ® Advanced Menu**, on the previous page.

The Advanced menu provides access to all of the installer programmable options. Each sub-section of the Advanced menu is described briefly in this section.

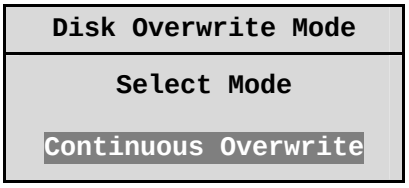
For complete information about installer programming in the Advanced menu, see section 5.



❑ Advanced Menu ® Disk Overwrite Mode

Use this menu to specify how the unit will handle disk overwrite issues once the hard disk becomes full. Select either:

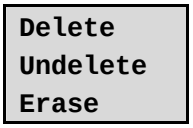
- No Overwrite.
- Overwrite Once.
- Continuous Overwrite.



❑ Advanced Menu ® Disk Maintenance

The user can have previously recorded information:

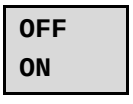
- Deleted (with the possibility of restoring it).
- Undeleted (restored if it has not yet been overwritten).
- Erased (removed with no possibility of restoring it).



❑ Advanced Menu ® Audio Record Setting

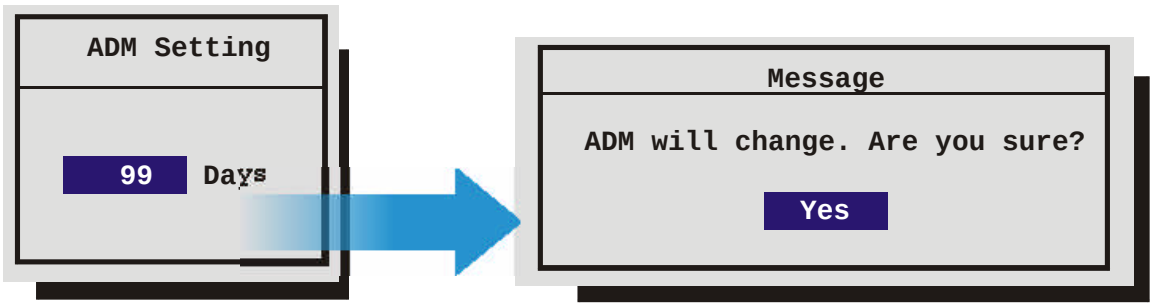
Use this menu to:

- Enable or Disable the audio recording capability of the DSR.



❑ Advanced Menu ® Auto Delete Mode

Use this menu to program the Auto Delete Mode. The options available are from 7 to 99 days and Off. Off is the default setting.



❑ Advanced Menu ® Communications

Use thus menu to specify:

- The data transfer rate for the RS-232 serial port.
- The units Ethernet network connection settings.
- The units Modem Settings.

Baud Rate
Ethernet Settings
Modem Settings

❑ Advanced Menu ® Multiplexer Format

The DSR is compatible with several different brands of multiplexers. Use this menu to specify the Playback format of the multiplexer. If the unit is not connected to a multiplexer, select **NONE**.

Note: The DSR will auto detect the camera type connected (NTSC or PAL) and will only display the supported multiplexers available in that format.

NTSC	PAL
None	None
Kalatel	Kalatel
Robot	Robot
DM	DM
Philips	Philips
Pelco	Pelco
Sanyo	Sanyo
Navco	Navco
ATV	ATV
ATV QSP	ATV QSP
QSI 1700	Vista VLM
Diebold	Panasonic
Panasonic	

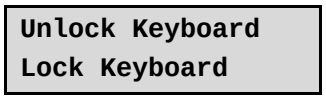
❑ Advanced Menu ® Adjust Picture

Use this menu to specify the Brightness, Contrast, and Saturation of the video input. Adjustments made to the video input will alter the recorded image.

Brightness
Contrast
Saturation

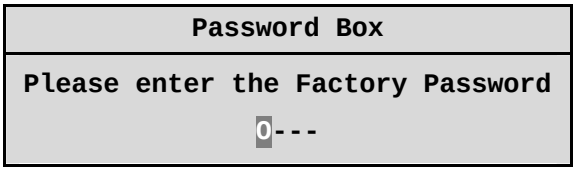
❑ Advanced Menu ® Front Panel Lock

Use this menu to Lock or Unlock the front panel.



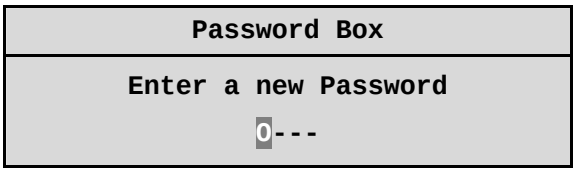
❑ Advanced Menu ® Factory Settings

Use this menu to enter the Factory Password, and restore the unit to the factory defaults.



❑ Advanced Menu ® Change Password

Use this menu to change the Advanced Menu Password.

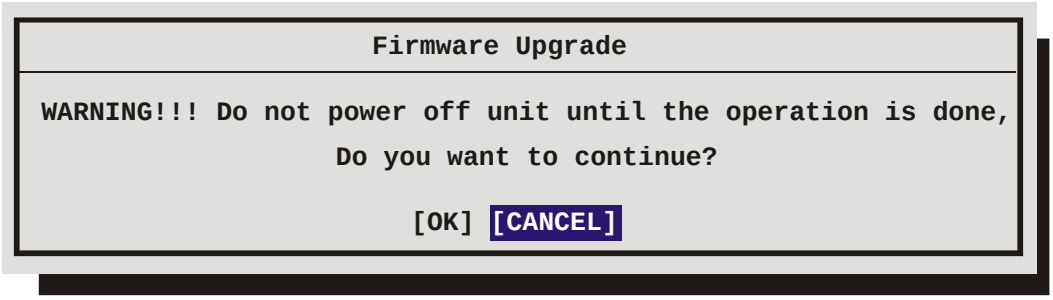


❑ Advanced Menu ® Languages

Use this menu to select the language the DSR will display.

❑ Advanced Menu ® Firmware Upgrade

Use this menu to Flash upgrade the DSR via the RS232 Serial port. The preferred method to upgrade the unit is via the ethernet using the built-in WaveBrowser (See section 6).



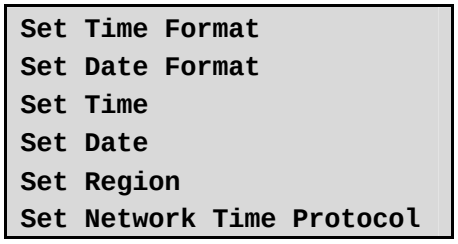
To upgrade the DSR from this menu requires the following items:

- A PC connected to the DSR via the serial port with a null modem cable.
- The WinFlash program.
- The upgrade file.

For further information and for obtaining the upgrade files and WinFlash program please contact GE Interlogix Technical Support at 1-800-469-1676.

4 OPERATOR PROGRAMMING

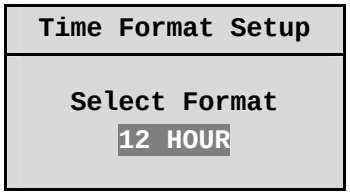
4.1 Main Menu ® Time/Date



Use this menu to specify:

- The time format: 12 or 24 hours.
- The date format: MM/DD/YY, DD/MM/YY, or YY/MM/DD.
- The time.
- The date.
- Set the Region for the Auto Daylight Savings Time feature.
- Setup clock synchronization between the DSR and the Network Server.

❑ Main Menu ® Time/Date ® Set Time Format



To set the Time format, use the **Jog** to select the desired Time format. Format the time as either:

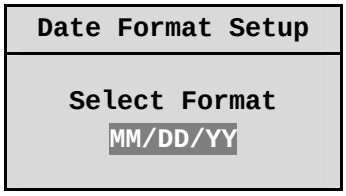
- **12 HOUR**
- **24 HOUR**

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Time/Date ® Set Date Format



To set the Date format, use the **Jog** to select the desired Date format. Format the Date as either:

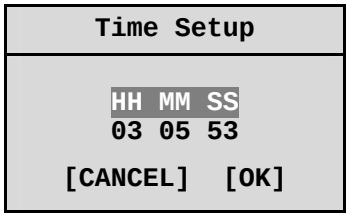
- **DD/MM/YY**
- **MM/DD/YY**
- **YY/MM/DD**

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Time/Date ® Set Time



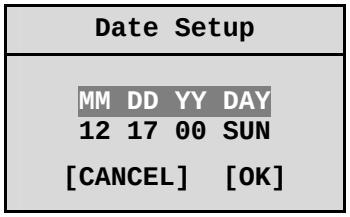
To set the Time:

1. With **HH MM SS** highlighted, press the **Enter** button. The highlighting will move to the row of numbers.
2. Enter the time in Hours, Minutes, and Seconds. Use the **Jog** to change the values. Use the **Shuttle** to navigate among the three fields.
3. Press the **Enter** button to confirm the selection.
4. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

--OR--

5. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

❑ Main Menu ® Time/Date ® Set Date



To set the Date:

1. Press the **Enter** button. The highlighting will move to the row of numbers.
2. Enter the date in Months, Days, Years. Day of the Week will update automatically. Use the **Jog** to change the values. Use the **Shuttle** to navigate among the three fields.
3. Press the **Enter** button to confirm the selection.
4. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

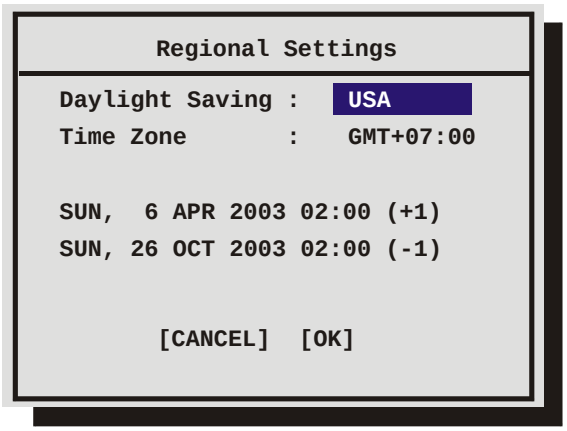
--OR--

5. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

❑ Main Menu ® Time/Date ® Set Region

Use this menu option to set the region for the Auto Daylight Savings Time feature. Choices are:

- **OFF**: Clock will not be changed automatically.
- **USA**: DST starts at 02:00 on the first Sunday in April. DST ends at 02:00 on the last Sunday in October. Includes: United States (except Hawaii, American Samoa, Guam, Puerto Rico, Virgin Islands, parts of Indiana and Arizona) and Canada (except Saskatchewan).
- **EUR**: DST starts at 01:00 GMT on the last Sunday in March. DST ends at 01:00 GMT on the last Sunday in October. Includes: European Union Countries.
- **AUS**: DST starts at 02:00 on the last Sunday in October. DST ends at 03:00 on the last Sunday in March. Includes: South Australia, Victoria, ACT, NSW. Excludes: Tasmania.



The clock will only be automatically adjusted once on a given time and date. If you manually set the clock back before the last DST change, the time will not get automatically adjusted again for that same time change.

❑ Main Menu → Time/Date → Network Time Setup

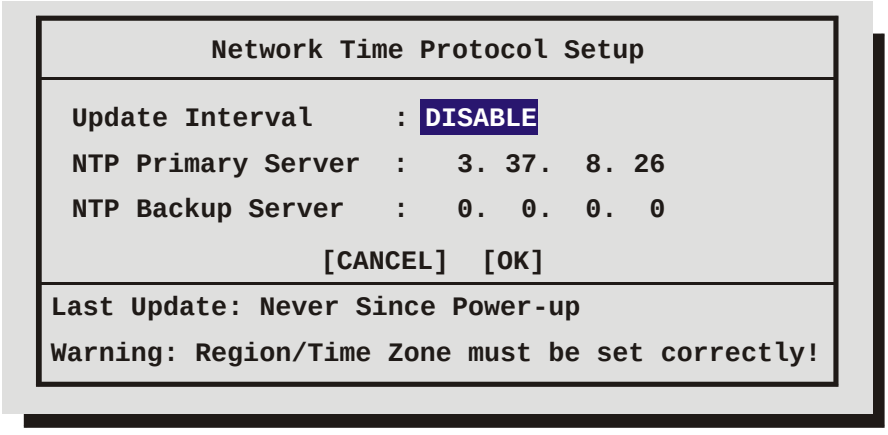
Use this menu to enable/disable and specify how often time synchronization should occur between the DSR and the Network Server. The Region /Time Zone must be setup prior to enabling the option.

Update Interval, Select from: Enable, Disable, Once per Day, Twice per Day, and Once per Hour

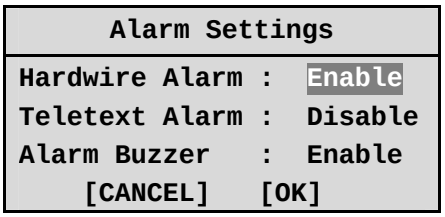
NTP Primary Server: Enter IP Address of Primary Server.

NTP Backup Server: Enter IP Address of Backup Server.

1. To save changes and exit the menu: Select **[OK]**, then press the **Enter** button.
2. To exit the menu without making changes: Press the **Menu** button, or select **[CANCEL]**, and then press the **Enter** button.


Network Time Protocol Setup
Update Interval : DISABLE
NTP Primary Server : 3. 37. 8. 26
NTP Backup Server : 0. 0. 0. 0
[CANCEL] [OK]
Last Update: Never Since Power-up
Warning: Region/Time Zone must be set correctly!

4.2 Main Menu ® Alarms



Use this menu to specify:

- Whether an alarm condition will be activated when the unit detects a signal on the Alarm In connection.
- Whether a teletext alarm signal (generated by a multiplexer or other device) will cause the unit to activate an alarm condition.
- Whether the internal buzzer is activated during an alarm condition.

A feature unique to the DSR is its ability to detect alarms via teletext provided within the video signal. Standard Time Lapse VCRs can only detect an alarm if the alarm output signal of the Mux is wired directly to the alarm input of the VCR using the VEXT connection.

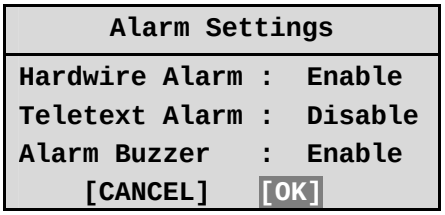
The teletext alarm detecting feature of the DSR is compatible with the following styles of Multiplexers:

- Kalatel
- Philips
- Robot
- Pelco
- Sanyo
- Navco
- ATV
- ATV QSP
- QSI
- Diebold
- Panasonic

Connecting to Dedicated Micros (DM)

When connecting to a Dedicated Micros multiplexer:

- It is necessary to connect the alarm output of the Mux to the alarm input of the DSR (as you would do when connecting the alarm input on standard time-lapse VCR).
- It is necessary to configure the **Main Menu ® Alarms ® Hardwire Alarm** as **Enabled.**
- It is necessary to configure the **Main Menu ® Alarms ® Teletext Alarm** as **Disable.**



To configure the alarm settings:

1. Use the **Shuttle** to navigate among the fields.
2. Use the **Jog** to change the values of the highlighted fields.
3. **To Save the changes and Exit the menu:** Use the **Jog** to select **[OK]**, then press the **Enter** button.

--OR--

4. **To Exit the menu without making changes:** Use the **Jog** to select **[CANCEL]**, then press the **Enter** button.

4.3 Main Menu ® Timer Settings

This menu allows the user to program a timed-recorded event. Use this menu to specify:

- The date, or days on which the recording will occur.
- The start and stop time.
- The record speed.
- The record quality.
- Whether the event is enabled.

DATE	START	STOP	SPD(pps)	QUALITY	ON/OFF
31	16:45	17:05	20	High	On
Sat	07:55	08:10	10	Med	Off
Mon-Fri	09:56	11:05	60	Low	On
Sat-Sun	14:23	14:50	60	High	On
Mon-Sun	02:23	03:34	20	Med	Off
--	--:--	--:--	--	--	--
			[OK]		
EDIT Mode		Hit "ENTER" To Toggle EDIT Mode			

Creating a Timed Recording:

1. Using the **Jog / Shuttle** to navigate, highlight the **DATE** parameter of the last line item (indicated with double dash marks).
2. Press the **Enter** button to enter the Edit mode. **EDIT MODE** will appear on-screen, in the lower left-hand corner of the Timer Settings menu. The user may press the **Enter** button to exit Edit mode at any time.
3. Use the **Jog** to change the values of the **DATE** setting.

Date (Day of the Month)	1 through 31
Day of the Week	Monday through Sunday
Range of Days	All Weekdays (Monday-Friday), All Weekend Days (Saturday-Sunday), Monday-Sunday (Everyday)

4. When finished entering the Date, use the **Shuttle** to navigate the **START** setting.
5. Use the **Jog / Shuttle** to enter the time the recording will begin. The Hours and Minutes are edited separately. The start and stop times are always configured in a 24-hour clock. When finished entering the start time, use the **Shuttle** to navigate to the **STOP** setting.
6. Use the **Jog / Shuttle** to enter the time the recording will end. Entering a time "before" the start time will cause the unit to record until the indicated stop time on the next day. When finished entering the stop time, use the **Shuttle** to navigate to the **SPD** setting.
7. Use the **Jog** to enter the record speed in pictures per second.

NTSC Record Speeds	60, 30, 20, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1, 0.0
PAL Record Speeds	50, 25, 17, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1, 0.0

8. When finished entering the Record Speed, use the **Shuttle** to navigate to the **QUALITY** setting.
9. Use the **Jog** to enter the record quality (Low, Medium, or High). Higher record quality settings use more disk space.

10. When finished entering the Record Quality, use the **Shuttle** to navigate to the **ON/OFF** setting.

11. Use the **Jog** to Activate, Deactivate, or Delete the recording.

12. When finished, press the **Enter** button to exit the Edit mode. Use the **Jog / Shuttle** to navigate to **[OK]**, then press the **Enter** button to complete the selection.

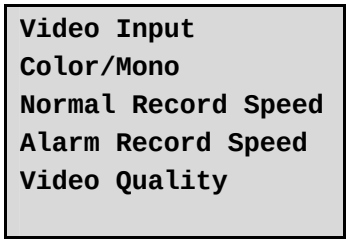
Editing a Timed Recording:

1. Using the **Jog / Shuttle** to navigate, highlight the event parameter you wish to edit.
2. Press the **Enter** button to enter the Edit mode. **EDIT MODE** will appear on-screen, in the lower left-hand corner of the pop-up menu.
3. Use the **Jog** to change the values. Use the **Shuttle** to navigate among parameters in the same row.
4. When finished, press the **Enter** button to exit the Edit mode. Use the **Jog / Shuttle** to navigate to **[OK]**, then press the **Enter** button to complete the selection.

Deleting a Timed Recording:

1. Using the **Jog / Shuttle** to navigate, highlight the **ON/OFF** parameter of the event you wish to delete.
2. Press the **Enter** button to enter the Edit mode.
3. Use the **Jog** to select **DEL** from the menu.
4. Press the **Enter** button to confirm the selection and exit the Edit mode.
5. Use the **Jog / Shuttle** to navigate to **[OK]**, then press the **Enter** button to remove the selection and exit the menu.

4.4 Main Menu ® Record Settings



Use this menu to specify:

- Which video input on the back panel is activated.
- Color or Monochrome recording.
- The record speed during Normal recording.
- The record speed when the unit detects an alarm condition.
- The recorded picture quality.

❑ Main Menu ® Record Settings ® Video Input

To select a video input, use the **Jog** select either **COMPOSITE VIDEO** or **SVHS VIDEO**.

Composite Video: Video input with BNC style connector.

SVHS Video: Y/C video input with 4-pin mini-DIN style connector.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

Caution: Do not connect both video inputs at the same time.

❑ Main Menu ® Record Settings ® Color/Mono

This menu sets the recorded video to be in Color or Mono. If you select auto, (default), the unit will auto detect color as before. If you select mono, it will force the recording into monochrome. All recorded and looped video will be monochrome. Use the **Jog** to select **`Auto`** or **`Mono`**.

Auto Mono

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Record Settings ® Normal Record Speed

Use the **Jog** to select the desired Normal Record Speed.

Normal Record Speed
Pictures Per Second 5p

Normal Record Speeds:

NTSC: 60, 30, 20, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1, 0.0.

PAL: 50, 25, 17, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1, 0.0.

When the Normal Record Speed is set to 0.0, the unit will only record while an alarm is active.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Record Settings ® Alarm Record Speed

Use the **Jog** to select the desired Alarm Record Speed.

Alarm Record Speed
Pictures Per Second 60p

Alarm Record Speeds:

NTSC: 60, 30, 20, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1.

PAL: 50, 25, 17, 10, 5, 3, 2, 1, 0.5, 0.2, 0.1.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Record Settings ® Video Quality

Use the **Jog** to select the desired Record Quality. Select **`High`**, **`Med`, `Standard`,** or **`Custom`**.

Higher record qualities use lower compression, requiring more disk space. Selecting Custom allows you to set a custom file size from 13.0k to 33k.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

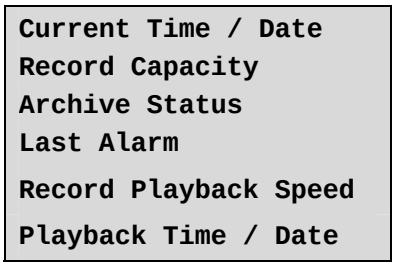
Press the **Menu** button to exit the menu without making changes.

Note: The option to select a **Custom** file size is only available when the **Multiplexer Format** is set to **None**. Multiplexer Format is located in the **Advanced Menu.**

4.5 Main Menu ® Display Settings

Use this menu to specify what status information will be displayed on the primary monitor. Select On or Off, for the following items.

- The current time and date.
- The remaining amount of time before the hard disk runs out of record space.
- The Archive Status.
- The time and date of the last alarm.
- The Record or Playback Speed.
- During Playback, the time and date the recording was made.



❑ Main Menu ® Display Settings ® Current Time / Date

To display the current Time and Date near the upper right hand corner of the primary monitor, select **`ON`**. Use the **Jog** to select **`On`** or **`Off`**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Display Settings ® Record Capacity

OFF
ON

Select **ON**, to display the amount of time remaining before the hard disk runs out of record space. The data is displayed near the upper left hand corner of the primary monitor. The unit displays the Record Capacity with two measures of time, and switches automatically depending on the amount of time remaining:

- Days and Hours
- Hours and Minutes
- Minutes and Seconds

Use the **Jog** to select **ON** or **OFF**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Display Settings ® Archive Status

OFF
ON

To display the archive status near the upper center of the screen on the primary monitor, select **ON**. The unit will display either:

- **ARCHIVE NOT CONNECTED.**
- **ARCHIVE READY.**
- **ARCHIVE NOT READY.**

Use the **Jog** to select **ON** or **OFF**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Display Settings ® Last Alarm

OFF
ON

To display the time and date of the last alarm, near the upper right hand corner of the primary monitor, select **On**. The unit will display **NONE** if there is no previous record of an alarm.

Use the **Jog** to select **On** or **Off**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Display Settings ® Record Playback Speed

OFF
ON

To display the Record or Playback Speed, near the lower right hand corner of the primary monitor, select **On**. The unit will display **NONE** if there is no previous record of an alarm.

Use the **Jog** to select **On** or **Off**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

❑ Main Menu ® Display Settings ® Playback Time / Date

To display the time and date the recording was made (during playback) select **On**. The data is displayed near the upper right hand corner of the screen.

OFF
ON

Use the **Jog** to select **On** or **Off**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

4.6 Main Menu ® Archive Setup

Use this menu to:

- Select data to be archived and begin archiving process.
- Restore data from archive device.
- Enable background archiving.
- Enable or Disable QuickWave Setup.
- Specify how the unit will handle overwrite issues when the archive medium becomes full.
- Erase the archived data.

Selective archive Restore from archive Background archive Quickwave Setup
Archive Overwrite Mode
Erase Archive Medium

❑ Main Menu ® Archive Setup ® Selective Archive

The Selective Archive feature allows the user to archive recorded data from the hard disk onto a CD, DAT, AIT, RAID, or DVSe. See the Archiving Addendum for details about using archive devices.

The Archive Search Filters menu allows the user to search the hard disk for recorded events, such as an alarm condition, or a previous recording session, then select events to be archived for later viewing. For example, each time Record mode is activated, it is considered a separate recording session.

Use this menu to specify:

- The Start and Stop date of the search.
- The Start and Stop time of the search.
- Which cameras to search exclusively.
- To search for recorded alarms.

This menu also provides information on the status of the archive device.

Archive Search Filters		
TARGET: Not Ready		
	Start	Stop
DATE: 12/25/00 [ ]	(MM/DD/YY)	01/01/01 [ ] (MM/DD/YY)
	Start	Stop
TIME: 11:11:21 [ ]		12:34:34 [ ]
CAMERA:	1 2 3 4 5 6 7 8 [ ][ ][ ][ ][ ][ ][ ][ ]	
ALARM: [ ]		
[CANCEL]	[START SEARCH]	

Searching for All Recorded Events

Using the **Shuttle** to navigate, highlight **[START SEARCH]**, then press the **Enter** button. The Archive Search Results window will appear. For information about selecting a recorded event, see **Selecting from the Archive Search Results**, in this section.

Specifying Search Parameters

Selecting a Start and Stop Date

1. Using the **Shuttle** to navigate, highlight the **DATE** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop date values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop date parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting a Start and Stop Time

1. Using the **Shuttle** to navigate, highlight the **TIME** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop time values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop time parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting Cameras to Search

1. Using the **Shuttle** to navigate, highlight the **CAMERA** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Shuttle** to navigate among the different cameras.
3. Use the **Jog** to select a camera (or cameras) by placing an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Searching for Recorded Alarms

1. Using the **Shuttle** to navigate, highlight the **ALARM** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to activate the alarms search, by placing an **[X]** in the check box.
3. Press the **Enter** button at any time to exit Edit mode.

Starting the Search

Using the **Shuttle** to navigate, highlight the **[START SEARCH]** parameter, then press the **Enter** button. The Archive Search Results menu will appear.

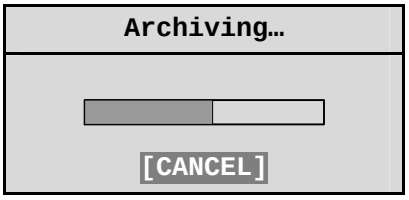
Archive Search Results				
	Start Date	Start Time	Size (MB)	
000	11/28/2000	17:52:14	26842	[ ]
001	11/29/2000	09:35:20	2062	[ ]
002	11/29/2000	10:00:04	278	[x]
003	11/29/2000	10:03:25	66	[x]
			Selected [383](MB)	
		Available on Target Medium [652](MB)		
"ENTER" to play			"SEARCH" to archive	

Selecting from the Archive Search Results

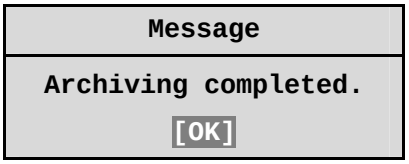
1. Use the **Jog** to navigate, highlighting the recorded event you wish to select
2. Use the **Shuttle** to select a recorded event by placing an **[x]** in the check box.

Starting the Archive Process

To begin archiving, press the **Search** button. The Archiving progress bar will appear. Press the **Enter** button to cancel archiving at any time.



When the unit is finished archiving this message box will appear. Press the **Enter** button to acknowledge the message and complete the archiving process.

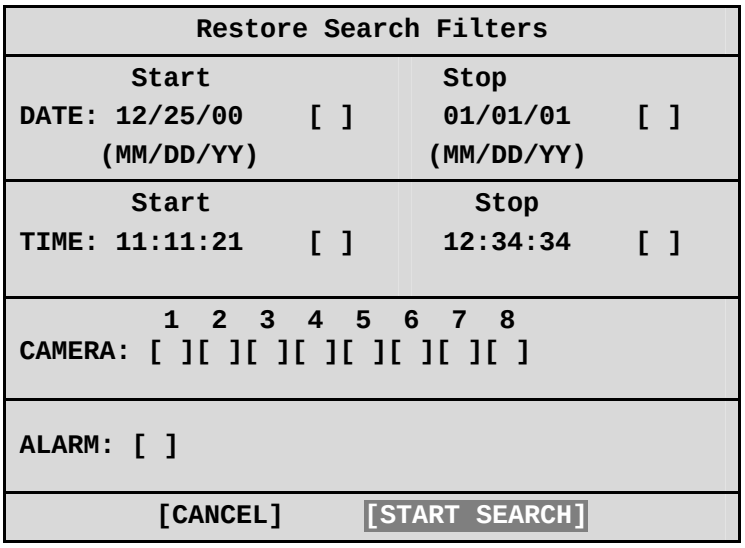


❑ Main Menu ® Archive Setup ® Restore From Archive

The DSR supports data restoration to the hard disk from an archive device. Data may be restored from a DAT, AIT, RAID, or DVSe. See the Archiving Addendum for details about using archive devices. The DSR does allow the user to search the archived data for recorded events, such as an alarm condition, or a previous recording session.

Use this menu to specify:

- The Start and Stop date of the search.
- The Start and Stop time of the search.
- Which cameras to search exclusively.
- To search for recorded alarms.



Searching for All Recorded Events

Using the **Shuttle** to navigate, highlight **[START SEARCH]**, then press the **Enter** button. The Restore Search Results window will appear.

Specifying Search Parameters

Selecting a Start and Stop Date

1. Using the **Shuttle** to navigate, highlight the **DATE** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop date values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop date parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting a Start and Stop Time

1. Using the **Shuttle** to navigate, highlight the **TIME** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to change the start and stop time values. Use the **Shuttle** to navigate among the different parameters.
3. To activate the start or stop time parameter, use the **Jog** to place an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

Selecting Cameras to Search

1. Using the **Shuttle** to navigate, highlight the **CAMERA** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Shuttle** to navigate among the different cameras.
3. Use the **Jog** to select a camera (or cameras) by placing an **[X]** in the check box.
4. Press the **Enter** button at any time to exit Edit mode.

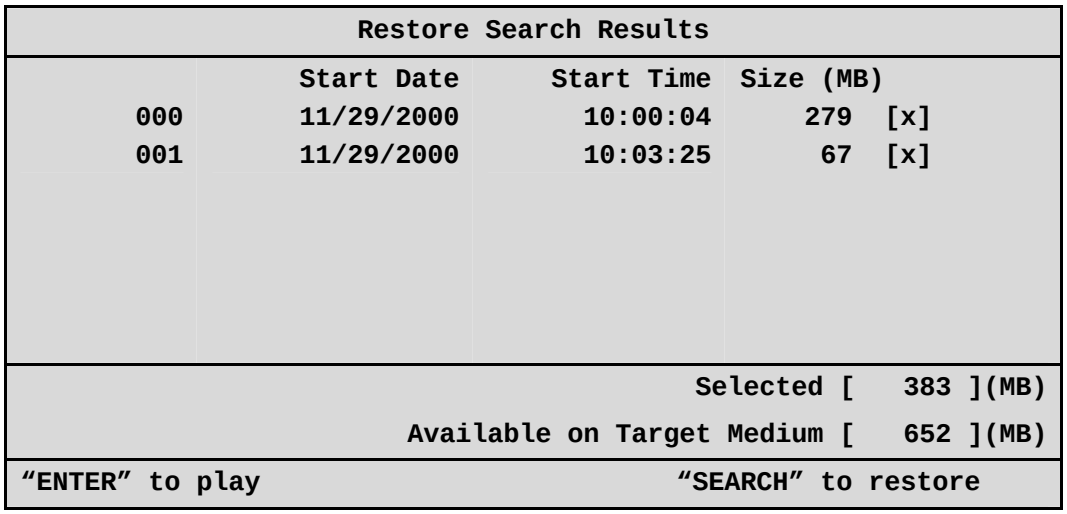
Searching for Recorded Alarms

1. Using the **Shuttle** to navigate, highlight the **ALARM** parameter, then press the **Enter** button. The unit will enter Edit mode.
2. Use the **Jog** to activate the alarms search, by placing an **[X]** in the check box.
3. Press the **Enter** button at any time to exit Edit mode.

Starting the Search

Using the **Shuttle** to navigate, highlight the **[START SEARCH]** parameter, then press the **Enter** button. The Restore Search Results menu will appear. Please note that restoring data indicated in this menu is not currently supported on the DSR unit.

Press the **Menu** button to exit the menu.



❑ Main Menu ® Archive Setup ® Background Archive

With the Background Archiving Feature turned ON, the unit archives recorded data automatically. Data is recorded to both the hard disk and the archiving device simultaneously.

OFF
ON

The unit cannot Background Archive when the unit is recording at its highest record speed.

Use the Jog to select **ON** of **OFF**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making any changes.

❑ Main Menu ® Archive Setup ® QuickWave Setup

This feature provides the option of having the QuickWave software written to any CDs that are created. This allows the CD to be read on any PC without installing software. Select ON to enable, OFF to disable. Please see the WaveReader Manual that came with this unit for more information.

OFF
ON

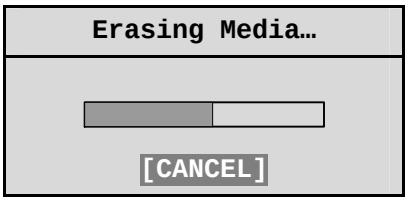
❑ Main Menu ® Archive Setup ® Archive Overwrite Mode

For future use only.

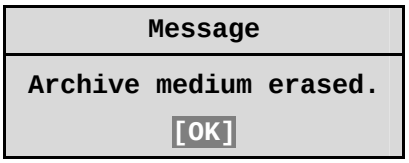
❑ Main Menu ® Archive Setup ® Erase Archive Medium

To erase the archived data, press the **Enter** button. The Erasing Media progress bar will appear. Press the **Enter** button to cancel archiving at any time.

This feature is not available when archiving to a CD-R device.



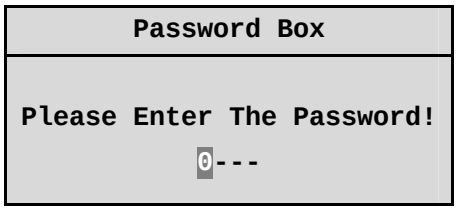
When the unit is finished erasing the data, this message box will appear. Press the **Enter** button to acknowledge the message and complete the deleting process.



4.7 Main Menu ® Advanced Menu

To access the Advanced menu:

1. Select **ADVANCED MENU** from the Main menu, then press the **Enter** button. The Password Box will appear.
2. Enter the Advanced menu password. Use the **Jog** to select a character, then use the **Enter** button to complete the selection, and move to the next character.
3. Pressing the **Enter** button on the last character will complete the password selection and the unit will display the Advanced menu.



5 INSTALLER PROGRAMMING

For security reasons, a password is provided to limit access to the Advanced menu. For instructions about entering the Advanced menu, see section **4.7 Main Menu ® Advanced Menu**, on page 4-15.

5.1 Advanced Menu ® Disk Overwrite Mode

Use this menu to specify how the unit will handle disk overwrite issues once the hard disk becomes full.

Disk Overwrite Mode
Select Mode
Continuous Overwrite

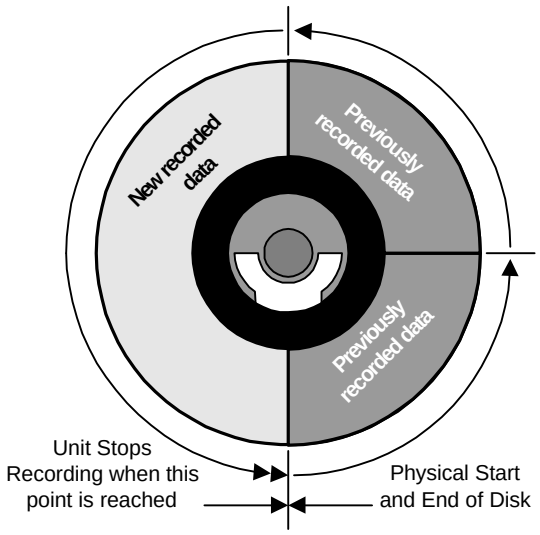
The unit handles disk overwrite issues in three ways:

- No Overwrite.
- Overwrite Once.
- Continuous Overwrite.

❑ Advanced Menu ® Disk Overwrite Mode ® No Overwrite

Functions of No Overwrite mode:

- Recording always starts at end of last recording.
- Recording stops when end of disk is reached (when disk is full).
- When the end of the disk is reached, the unit displays an on-screen message indicating that the disk is full, and the unit has stopped recording. User must acknowledge the on-screen message by pressing the **Enter** button.
- Unit will not record over previously recorded data. To continue recording, the data must be erased (or deleted) in the **Advanced ® Disk Maintenance** menu.

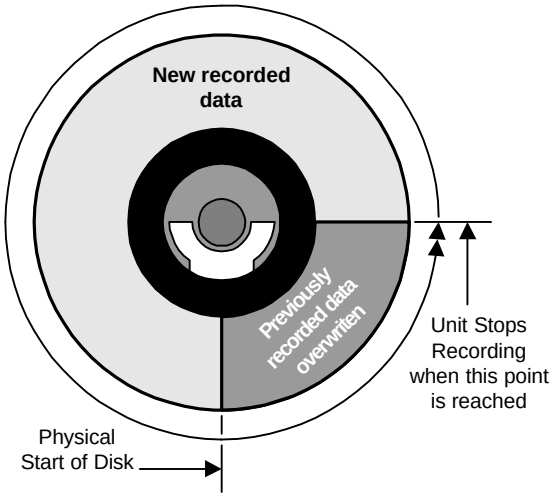

New recorded data
Previously recorded data
Previously recorded data
Unit Stops Recording when this point is reached
Physical Start and End of Disk

No Overwrite Mode

❑ Advanced Menu ® Disk Overwrite Mode ® Overwrite Once

Functions of Overwrite Once mode:

- Recording always starts at end of last recording.
- The unit overwrites all previously recorded data.
- Recording stops before the unit overwrites any of the new recorded data (data from the current record session).
- When the end of the disk is reached, the unit displays an on-screen message indicating that the disk is full, and the unit has stopped recording. User must acknowledge the on-screen message by pressing the **Enter** button.
- The unit will continue recording again when the user presses the **Record** button.

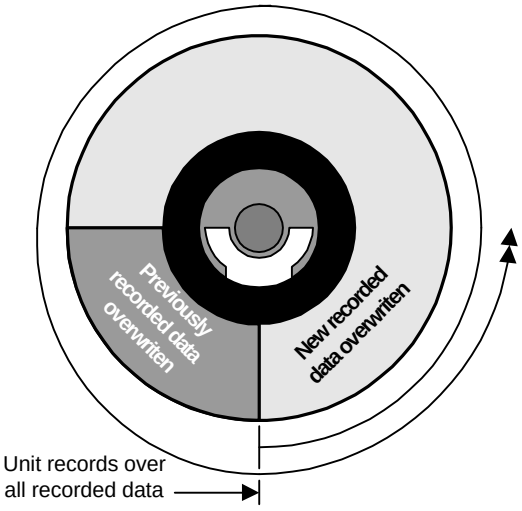

New recorded data
Previously recorded data overwriten
Unit Stops Recording when this point is reached
Physical Start of Disk

Overwrite Once Mode

❑ Advanced Menu ® Disk Overwrite Mode ® Continuous Overwrite

Functions of Continuous Overwrite mode:

- Recording always starts at end of last recording.
- The unit overwrites all previously recorded data.
- The unit overwrites new recorded data (data from the current record session).
- Unit never stops recording.
- Record Capacity display will not count down.



Continuous Overwrite Mode

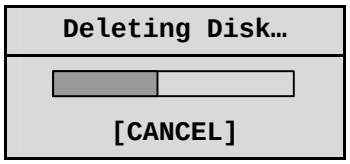
5.2 Advanced Menu ® Disk Maintenance

The user can have previously recorded information:

- Deleted (with the possibility of restoring it).
- Undeleted (restored if it has not yet been overwritten).
- Erased (removed with no possibility of restoring it).

```
Delete Disk
Undelete Disk
Erase Disk (Permanent)
```

❑ Advanced Menu ® Disk Maintenance ® Delete Disk

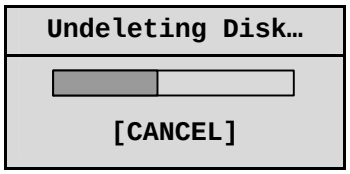


To begin deleting the disk, use the **Jog** to select **DELETE DISK**, then press the **Enter** button. The Deleting Disk menu will appear. The unit will begin deleting the oldest recorded information immediately.

To stop the delete process, select **[CANCEL]** by pressing the **Enter** button.

Data that was deleted before **[CANCEL]** was selected will remain deleted unless **UNDELETE DISK** is selected.

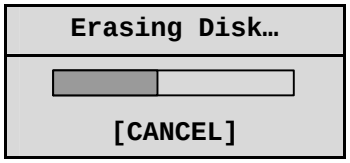
❑ Advanced Menu ® Disk Maintenance ® Undelete Disk



To restore information that was previously deleted, use the **Jog** to select **UNDELETE DISK**, then press the **Enter** button.

To stop the restore process, select **[CANCEL]** by pressing the **Enter** button.

❑ Advanced Menu ® Disk Maintenance ® Erase Disk (Permanent)



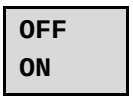
Caution: Erasing the disk removes recorded data without the possibility of restoring it.

To begin erasing the disk, use the **Jog** to select **ERASE DISK (PERMANENT)**, then press the **Enter** button.

To stop the erasing process, select **[CANCEL]** by pressing the **Enter** button.

Data that was erased before **[CANCEL]** was selected will remain deleted permanently.

5.3 Advanced Menu ® Audio Record Setting



Use this menu to:

- Enable or Disable the audio recording capability of the DSR.

Audio Limitations: To record audio at least one the unit's video inputs must be set to record video at a rate of 1pps or faster.

5.4 Advanced Menu ® Auto Delete Mode

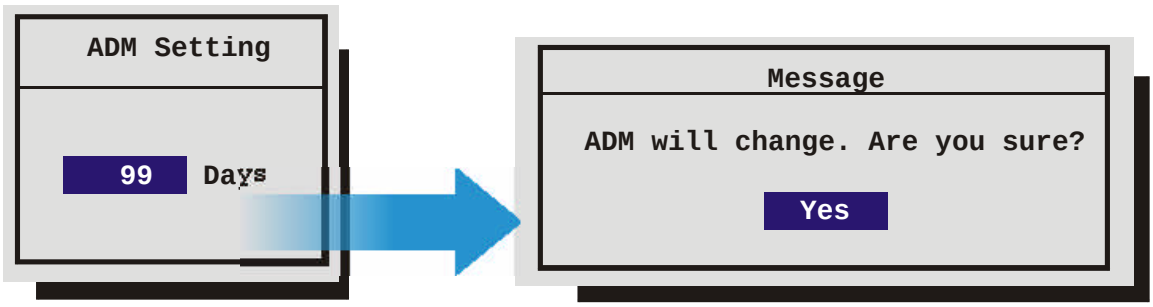
Configuring the unit with the Auto Delete mode from 7 to 99 days prevents the unit from displaying or archiving any data that is more than the selected number of days old. This feature may be required by law in some jurisdictions, please consult with the local authorities.

Use the **Jog** to select from **7-99 Days** or **OFF**.

Press the Enter button to implement the selection.

If the selection is altered from what was previously selected, the confirmation menu will appear.

Rotate the **Shuttle** to select **Yes** or **NO**.



5.5 Advanced Menu ® Communications

Use thus menu to specify:

- The data transfer rate for the RS-232 serial port.
- The units Ethernet network connection settings.
- The units Modem Settings.

```
Baud Rate
Ethernet Settings
Modem Settings
```

❑ Advanced Menu ® Communications ® Baud Rate

Use the **Jog** to select the Baud Rate.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

```
 1200 Baud
 2400 Baud
 4800 Baud
 9600 Baud
19200 Baud
38400 Baud
57600 Baud
```

❑ Advanced Menu ® Communications ® Ethernet Settings

An Ethernet session is an active network connection between a PC and the unit, with the user viewing live camera images or accessing data stored on the hard disk.

When Ethernet is first selected, this warning box will appear.

Select **OK** to continue.

```
Message
Warning – Machine will reset if any values change!
[OK]
```

Use this menu to configure the Ethernet communications settings. Select from the following:

Hostname: Not selectable. Pulled from the systems serial number.

Ethernet: Select Enable or Disable.

DHCP: Select Enable or Disable. Enables dynamic IP addressing. When DHCP is enabled, the IP address, Subnet Mask, Gateway, and Server fields are dynamically addressed.

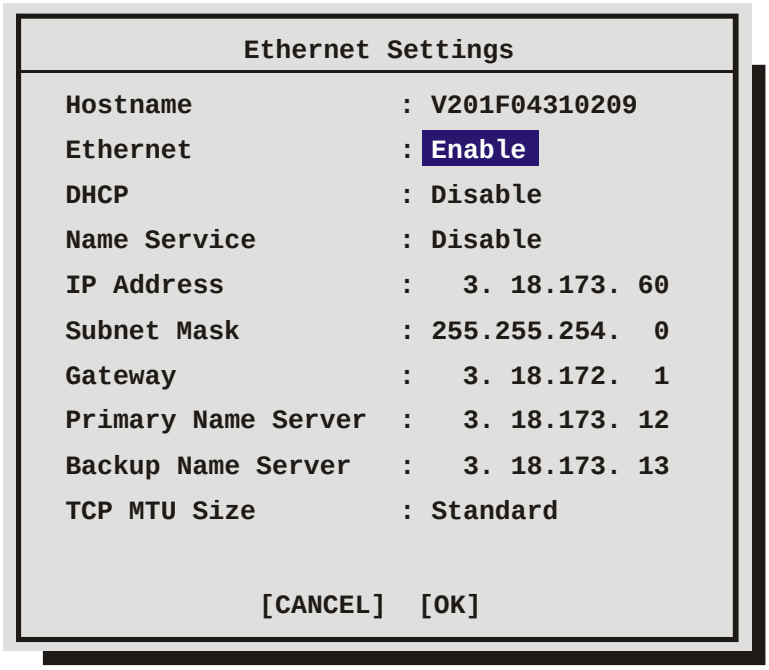
Name Service: Select from Disable or WINS. Enabling WINS registers the hostname and IP address within the current Network. This ensures that you can connect to the DSR by hostname within the network.

IP Address / Subnet Mask / Gateway: Consult with a qualified Network Administrator or an MIS professional to configure these settings if DHCP is not enabled.

Primary Name Server / Backup Name Server: The IP addresses of the Primary and Backup Name Servers. Not required if DHCP is enabled.

Print Server: Enter the Print Servers IP address to enable the Print Image operation (Function and Zoom).

TCP MTU Size: Select from Standard, 1400, and 1200. The MTU describes the maximum possible TCP packet size. Standard (1500) is optimal for most ethernet network environments.


Ethernet Settings
Hostname : V201F04310209
Ethernet : Enable
DHCP : Disable
Name Service : Disable
IP Address : 3. 18.173. 60
Subnet Mask : 255.255.254. 0
Gateway : 3. 18.172. 1
Primary Name Server : 3. 18.173. 12
Backup Name Server : 3. 18.173. 13
TCP MTU Size : Standard
[CANCEL] [OK]

How the unit handles an Ethernet session

At the start of an Ethernet session, the unit locks out its own front panel and disables all RS-232 and RS-485 communications. During the Ethernet session, the unit can only be accessed remotely, using the WaveReader software. When the Ethernet session ends, the unit re-enables the RS-232 and RS-485 communications and unlocks the front panel.

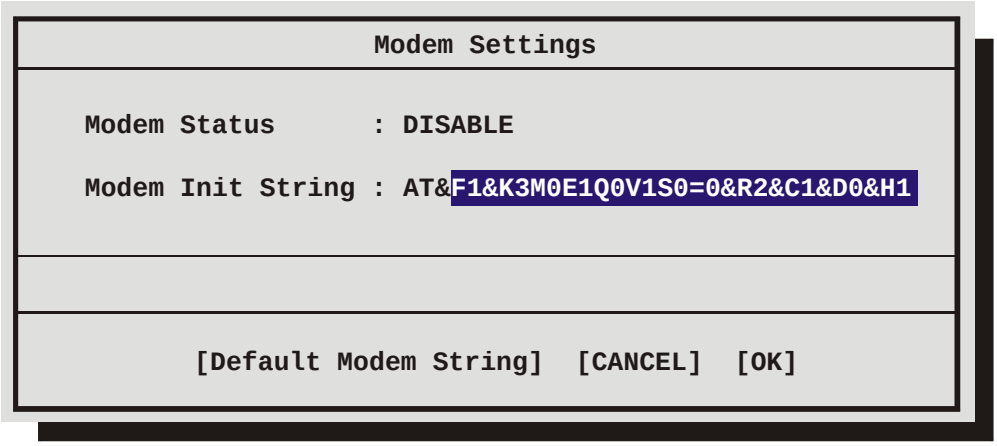
Playback stops when an Ethernet session is started. Playback will not be re-activated automatically when the Ethernet session ends.

❑ Advanced Menu ® Communications ® Modem Settings

The default modem string (shown below) is for use with Hayes Accura 56k, Diamond Supra Express 56k, and 5686 US Robotics modems in their default conditions. Consult with the modem manual before attempting to make any changes. It is strongly recommended that the modem initialization string only be modified by a qualified technician.

To enable modem communication select **enable** in the **Modem Status** field.

To modify the modem settings follow the steps below.



1. With the Modem Init String highlighted, press the **Enter** button to enter the Edit mode. The character bank will appear in the center of the menu.
2. Press the **Sequence** button to select the desired character bank.
3. Rotate the **Shuttle** to navigate the Modem Init String.
4. Rotate the **Jog** to select a character from the character bank.
5. Use the **Number 2** button or rotate the **Shuttle** to insert the desired character from the character bank into the Modem Init String and advance to the next character.
6. Use the **Number 1** button to insert a blank character.
7. When finished, press the **Enter** button.
8. To save the changes and reboot, select **OK,** then press the **Enter** button. The unit will only reboot if changes were made to the Modem Init String.
9. To exit the menu without making changes, select **Cancel**, then press the **Enter** button. Pressing the **Menu** button also exits the menu without making changes.

5.6 Advanced Menu ® Multiplexer Format

The DSR is compatible with several different brands of multiplexers. Use this menu to specify the Playback format of the multiplexer. If the unit is not connected to a multiplexer, select **NONE**.

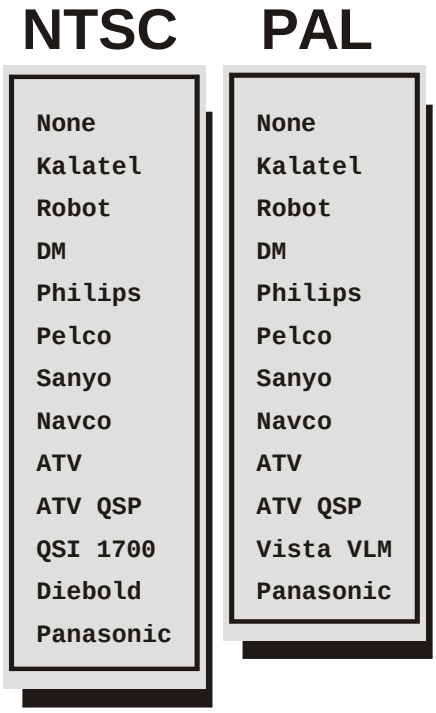
Note: The DSR will auto detect the camera type connected (NTSC or PAL) and will only display the supported multiplexers available in that format.

Use the **Jog** to select the Multiplexer format.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

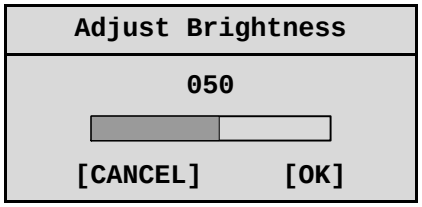


5.7 Advanced Menu ® Adjust Picture

Use this menu to specify the Brightness, Contrast, and Saturation of the video input. Adjustments made to the video input will alter the recorded image.

❑ Advanced Menu ® Adjust Picture ® Adjust Brightness

Use this menu to increase or decrease the brightness of the image.



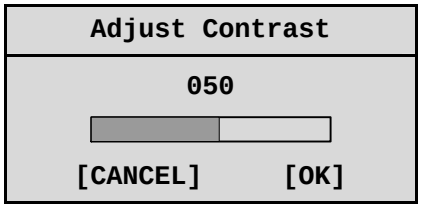
1. Use the **Shuttle** to navigate to the numbers.
2. Use the **Jog** to increase or decrease to brightness.
3. **To Save the changes and Exit the menu:** Use the **Shuttle** to select **[OK]**, then press the **Enter** button.

--OR—

4. **To Exit the menu without making changes:** Use the **Shuttle** to select **[CANCEL]**, then press the **Enter** button.

❑ Advanced Menu ® Adjust Picture ® Adjust Contrast

Use this menu to increase or decrease the contrast of the image.



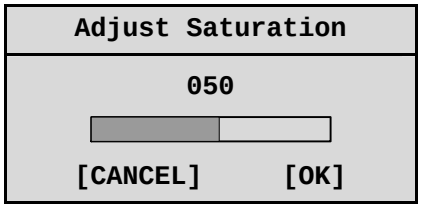
1. Use the **Shuttle** to navigate to the numbers.
2. Use the **Jog** to increase or decrease to contrast.
3. **To Save the changes and Exit the menu:** Use the **Shuttle** to select **[OK]**, then press the **Enter** button.

select **[OK]**, then press the **Enter** button.

--OR—

4. **To Exit the menu without making changes:** Use the **Shuttle** to select **[CANCEL]**, then press the **Enter** button.

❑ Advanced Menu ® Adjust Picture ® Adjust Saturation



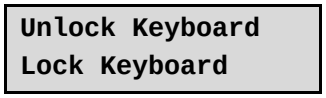
Use this menu to increase or decrease the saturation of the image. Saturation refers to the amount of color displayed in the image.

1. Use the **Shuttle** to navigate to the numbers.
2. Use the **Jog** to increase or decrease to saturation.
3. **To Save the changes and Exit the menu:** Use the **Shuttle** to select **[OK]**, then press the **Enter** button.

--OR—

4. **To Exit the menu without making changes:** Use the **Shuttle** to select **[CANCEL]**, then press the **Enter** button.

5.8 Advanced Menu ® Front Panel Lock



Use this menu to Lock or Unlock the front panel.

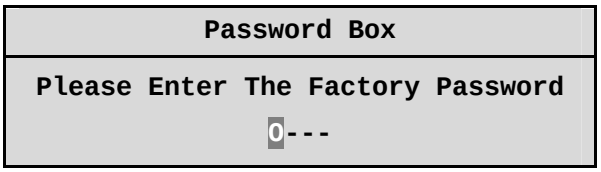
Use the **Jog** to select **UNLOCK KEYBOARD** or **LOCK KEYBOARD**.

Press the **Enter** button to confirm the selection and exit the menu.

--OR—

Press the **Menu** button to exit the menu without making changes.

5.9 Advanced Menu ® Factory Settings

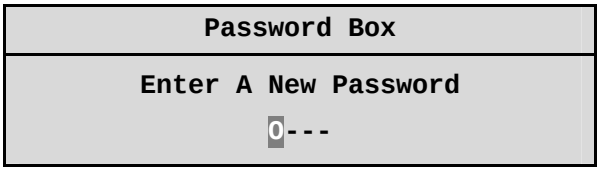


Use this menu to enter the Factory Password, and restore the unit to the factory defaults.

Use the **Jog** to select a character, then use the **Enter** button to complete the selection, and move to the next character.

Pressing the **Enter** button on the last character will complete the password selection and return the unit to the factory default configuration.

5.10 Advanced Menu ® Change Password



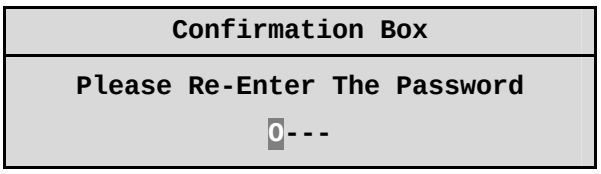
Use this menu to change the Advanced Menu Password.

Use the **Jog** to select a character, then use the **Enter** button to complete the selection, and move to the next character.

Pressing the **Enter** button on the last character will open the Confirmation Box.

Re-enter the New password.

Pressing the **Enter** button on the last character will complete the password selection.



If the password in the Confirmation Box **matches** the password from the Password box, this message will appear.

Press the **Enter** button to select **[OK]** and exit the menu.

If the password in the Confirmation Box **does not match** the password from the Password box, this message will appear.

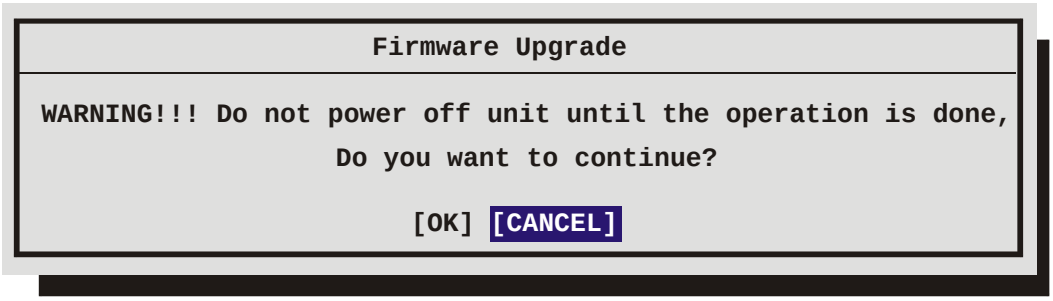
Press the **Enter** button to select **[OK]** and exit the menu.

5.11 Advanced Menu ® Languages

Use this menu to select the language the DSR will display.

5.12 Advanced Menu ® Firmware Upgrade

Use this menu to Flash upgrade the DSR via the RS232 Serial port. The preferred method to upgrade the unit is via the ethernet using the built-in WaveBrowser (See section 6).



To upgrade the DSR from this menu requires the following items:

- A PC connected to the DSR via the serial port with a null modem cable.
- The WinFlash program.
- The upgrade file.

For further information and for obtaining the upgrade files and WinFlash program please contact GE Interlogix Technical Support at 1-800-469-1676.

6 WAVEBROWSER

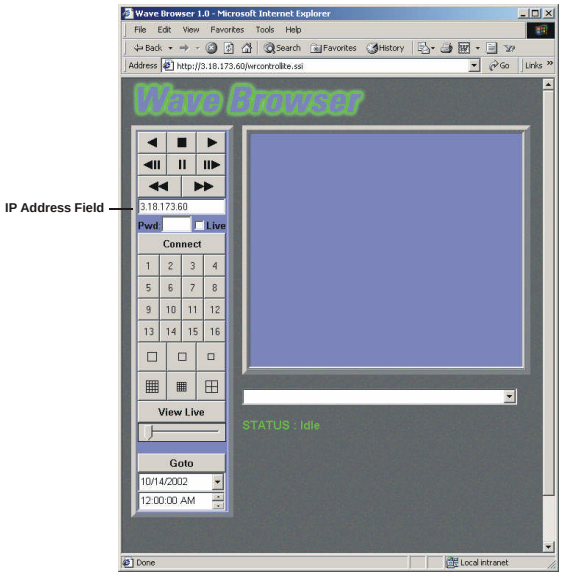
The DSR has an integrated WebBrowser interface. The WaveBrowser option allows the user to view video from any ethernet connected DSRs with software version 2.07 or above.

For WaveBrowser to function properly, certain ActiveX controls must be set correctly. To setup the ActiveX controls:

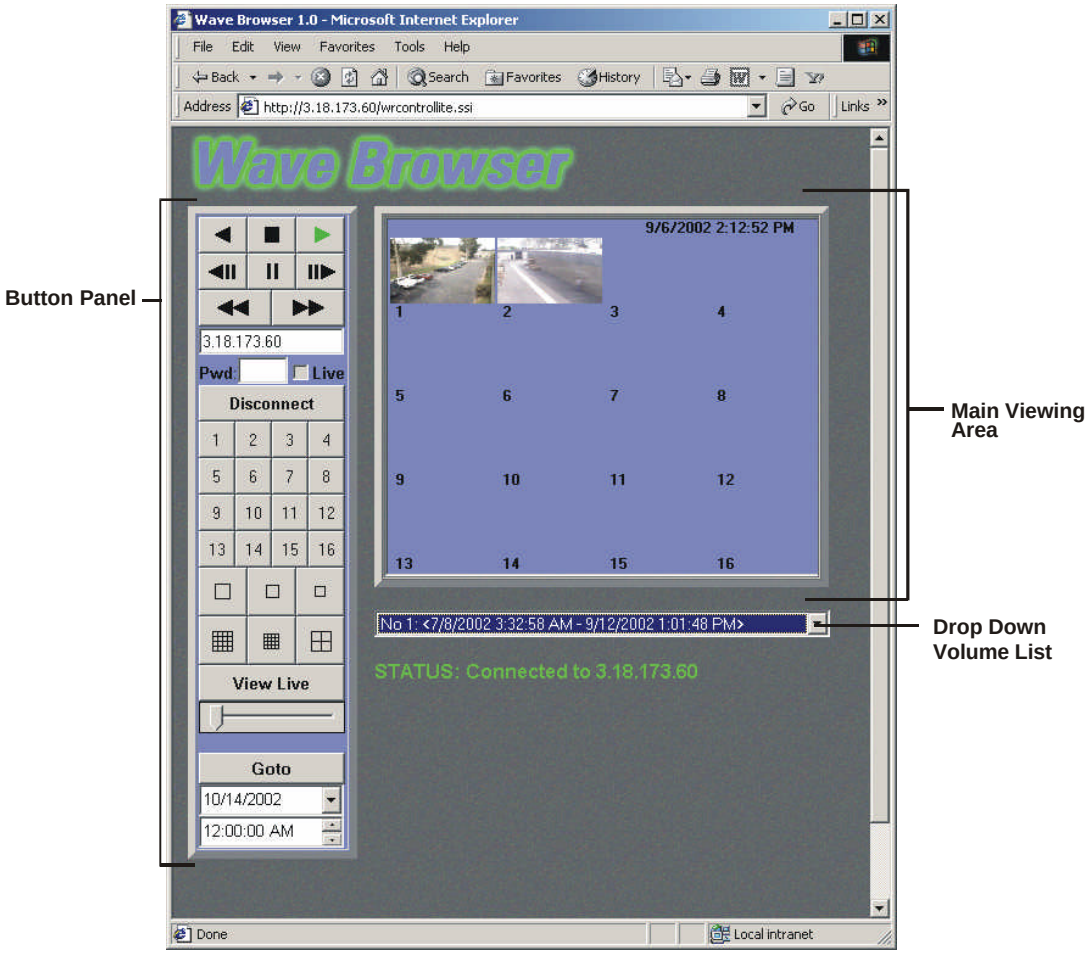
1. Click on the Tools → Internet Options Menu in Internet Explorer.
2. Click on the Security tab.
3. Select Local Intranet for the Web Content Zone.
4. Click on the Custom Level button.
5. Ensure that both Download unsigned ActiveX controls and Initalize and Script ActiveX controls not marked as Safe are set to Prompt.
6. Click the OK button.
7. Click on the Yes button in the Warning message.
8. Click the OK button in the Internet Options window.

To access the web interface:

1. Launch Internet Explorer (version 5.5 or later) on any local Internet connected PC or laptop.
2. Type in the DSR's IP address or hostname in the address field and press enter. The Enter Network Password box should appear.
3. Enter the correct Username and Password in their respective fields (the default username and password is admin). Click the OK button.
4. The WaveBrowser window should appear. Type the IP address in the IP Address Field and click the Connect button.



6.1 WaveBrowser Overview and Controls



The Main program window consists of the following areas:

- **The Main Viewing Area:** The large blue area.
- **The Button Panel:** The left side of the window.
- **The Drop Down Volume List:** Allows the selection of available Disk volumes.

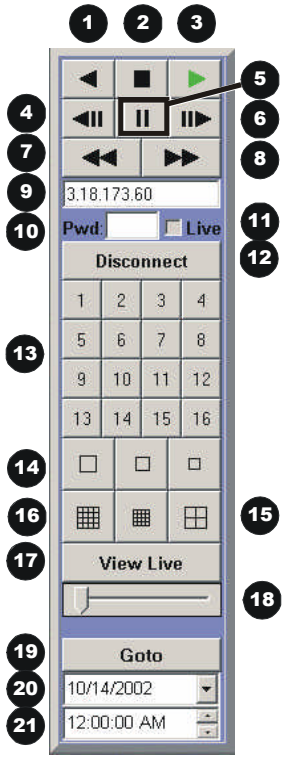
The Main Viewing Area

Pictures are displayed in this area in Multi-Camera, and Single-Camera formats. Picture display order is according to the information encoded by the unit used to create the original video data file.

Choose from the following displays:

- 16-way Multiscreen Display (Large and Medium)
- 4-way Display
- Single Camera Display Large
- Single Camera Display Medium
- Single Camera Display Small

The Button Panel



1. **Play Backward button:** Click on this button to playback video in reverse.
2. **Stop button:** Click on this button to halt all playback operations. The Play Pointer Slider Bar moves to the start of data.
3. **Play Forward button:** Click on this button to playback video.
4. **Single Frame Rewind button:** Click on this button to rewind the video a single frame.
5. **Pause button:** Pauses playback until the Pause button is pressed again. Clicking any of the buttons, except Stop will also resume playback. The Play Pointer slider bar stays at the current position while paused.
6. **Single Frame Advance button:** Click on this button to advance the video a single frame.
7. **Rewind button:** Click on this button to perform high-speed reverse playback.
8. **Fast Forward button:** Click on this button to perform high-speed playback.
9. **IP Address Field:** Enter the unit's IP address.
10. **Password Field:** Enter the unit's password, if necessary.
11. **Live check box:** Click in this box to enable live viewing before connecting.
12. **Connect/Disconnect button:** Click on this button(s) to connect to the unit.
13. **Number buttons:** Press any of these buttons to call up individual cameras for display. When connected to a unit that has more than 16 cameras, click on one of the multiscreen buttons to cycle through the remaining cameras.
14. **Single Camera Display Size:** Choose from Small, Medium, or Large.
15. **16-way Multiscreen button:** Choose from a Medium 16-way, or Large 16-way.
16. **4-way Multiscreen button:** Selects a Large 4-way display.
17. **View Live Button:** Click on this button while connected to view live video.
18. **Play Pointer Slider Bar:** The Play Pointer slider bar advances to the right to indicate the playback position on the disk. The user can drag the bar to navigate forward or backward.
19. **Goto Button:** Click on this button to go to the selected date for the drop down time and date boxes.
20. **Drop down Date Selection Menu:** Click on this field to display a graphic calendar to select a date to view.
21. **Time Selection Menu:** Click on the Up or Down Arrows to select a specific time to view.

The Drop Down Volume List Box

Click on the arrow to display a list of available disk volumes on the connected unit. Click on the volume to select.

6.2 DSR WaveLink

A new feature with DSR software version 2.07 is the DSR WaveLink. This feature allows putting command codes in the URL when calling WaveBrowser to control actions the WaveBrowser is going to perform.

This feature can be used by Web Developers to link various cameras to specific Web content.

6.2.1 Functionality

The traditional WaveBrowser URL is **http://<IP_Address>/wrcontrollite.ssi**. This URL will start the WaveBrowser in the disconnected state. DSR software version 2.07 supports command codes placed after an underscore after **wrcontrollite** and before **.ssi**. In the following example, the options are in bold.

Example: http://3.18.172.230/wrcontrollite_**c=1s=2a=3t=1361959858**.ssi.

The following table specifies the supported options:

Name	Code	Description	Example
Camera	c=<n>	Describes either the camera number for fullscreen (1=Camera 1, …16=Camera 16) or the type of the multiscreen display (100 = Multiscreen 16 large, 101= Multiscreen 16 small, 102= Quad screen)	c=10
Size	s=<n>	For fullscreen camera, describes the size of the display (1=large, 2 =medium, 3= small)	s=2
Action	a=<n>	Describes the action the WaveBrowser has to take: 0 No action 1 Normal Connection Play 2 Normal Connection Live 3 Normal Connection Goto 4 Live Connection	a=2
Time	t=<n>	When action is set to 3 (Goto), the time specifies where to go in number of seconds since 01/01/1960.	t=1361959858

Please Note: When an option is not specified, it will be set to 0.

When a normal connection is requested, but the unit is already connected via a normal connection, the WaveBrowser should open a live connection instead.

The default page, **http://<IP_Address>**, does not accept option codes and will open the WaveBrowser in disconnected state.

The example URL from above **http://<IP_Address>**/wrcontrollite_**c=1s=2a=3t=1361959858**.ssi) requests the WaveBrowser to make a **normal connection**, **play back at 2/27/2003 10:53:32** displaying **camera 1** in **medium size**.

6.3 Upgrading the DSR with WaveBrowser

Upgrading the software for the DSR is accomplished via the ethernet port and a PC/Laptop equipped with a web browser.

To properly upgrade the Kalatel DSR the following preconditions must exist:

1. The Flash upgrade file and path. This file is obtained by calling Kalatel Technical Support at 1-800-469-1676. When calling, please have the following information available:

    - The model number of the product.
    - The serial number and revision of the product
    - The current firmware version.
    - The date purchased.
    - Symptoms of the unit that might require upgrade.

2. The DSR unit connected to a PC equipped with Microsoft Internet Explorer version 5.5 or later via ethernet cable.

3. The IP address of the DSR.

4. WaveReader software must NOT be connected to the DSR. Please exit all non-essential software on the PC.

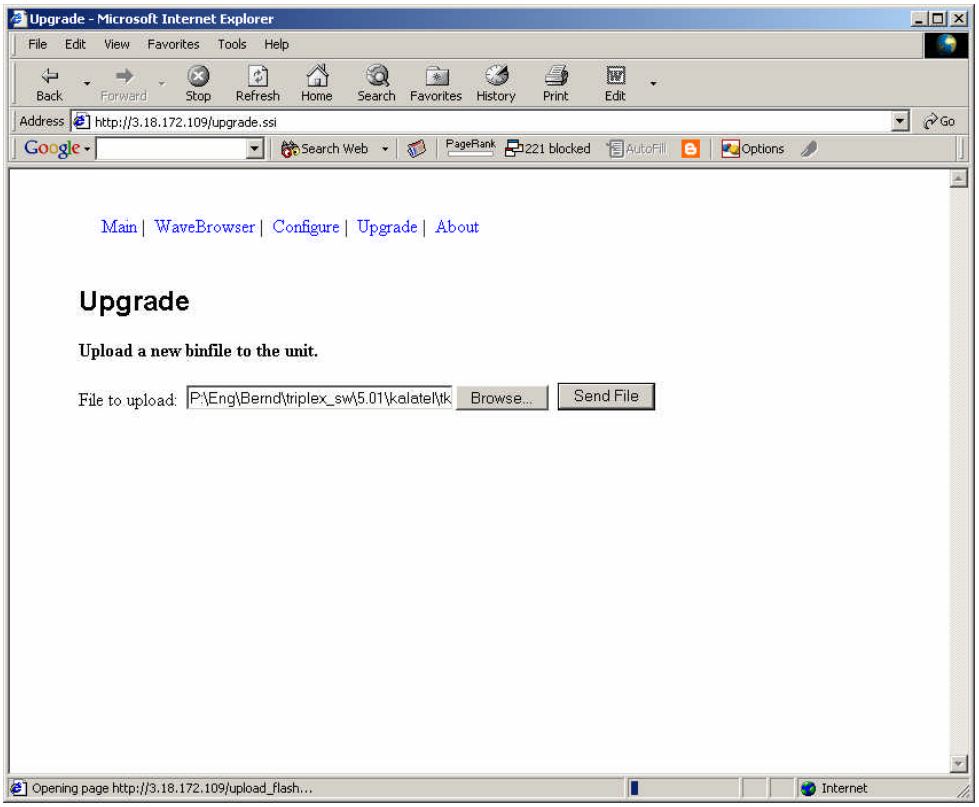
5. Ensure that the DSR is not currently recording or archiving.

Follow the steps below to Upgrade the DSR:

Step 1. Launch the Browser software (Microsoft Internet Explorer 5.5 or later).

Step 2. Enter the IP address of the DSR in the address field of the Browser followed by **/upgrade.ssi** and press enter. For example if the IP address is 3.18.173.71 type **3.18.173.71/upgrade.ssi**.

Step 3. The Enter Network Password window should appear. Enter the correct Username and Password in their respective fields. (The default username is admin and the password is admin. It is recommended that the defaults be changed ASAP). Click the OK button. The DSR upgrade page should appear.


Upgrade - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Print Edit
Address http://3.18.172.109/upgrade.ssi
Google Search Web 221 blocked AutoFill Options
Main | WaveBrowser | Configure | Upgrade | About
Upgrade
Upload a new binfile to the unit.
File to upload: P:\Eng\Bernd\triplex_sw\5.01\kalatel\tk Browse... Send File
Opening page http://3.18.172.109/upload_flash...
Internet

Step 4. Navigate to the upgrade file using the Browse button or type in the correct path and filename. Click on the Send File button.

Step 5. Click on the Confirm Button. A progress bar will appear. PLEASE WAIT FOR THE PROGRESS BAR TO FINISH, **THEN WAIT FOR CONFIRMATION!** Click on the Reboot button to restart the unit for changes to take effect. If unsuccessful, download the flash file again and retry the steps 1-6.

7 RS-232 REMOTE PROTOCOL

The RS-232 protocol command structure uses “Start of Text” (S_x) and “End of Text” (E_x) characters to identify the beginning and end of command sequences.

The DSR supports the following command sequences:

ASCII Command String

Command	ASCII String	Bytes in Hexadecimal
Play Forward	S_x **PLF** E_x	02 46 50 4C 03
Record	S_x **REC** E_x	02 52 45 43 03
Stop	S_x **STO** E_x	02 53 54 4F 03
Pause	S_x **PAU** E_x	02 50 41 55 03
Fast Forward	S_x **FWD** E_x	02 46 57 44 03
Rewind	S_x **REW** E_x	02 52 45 57 03
Frame Forward	S_x **FAD** E_x	02 46 41 44 03
Frame Reverse	S_x **RAD** E_x	02 52 41 44 03
Play Reverse	S_x **RPL** E_x	02 52 50 4C 03
Increase Speed	S_x **ISP** E_x	02 49 53 50 03
Decrease Speed	S_x **DSP** E_x	02 44 53 50 03
Search	S_x **SEA** E_x	02 53 45 41 03
Up Arrow	S_x **ARU** E_x	02 41 52 55 03
Down Arrow	S_x **ARD** E_x	02 41 52 44 03
Left Arrow	S_x **ARL** E_x	02 41 52 4C 03
Right Arrow	S_x **ARR** E_x	02 41 52 52 03
Menu	S_x **MEN** E_x	02 4D 45 4E 03
Enter	S_x **ENT** E_x	02 45 4E 54 03
Set Clock	See instructions for setting clock in the following section.	

Note: All byte values shown in hexadecimal.

Setting the Clock

The following table shows the command sequence for setting the clock:

Command	1	2	3	4	5	6	7	8	9	10
Value	02	43	4C	4B	20	y1	y2	2D	m1	m2

Command	11	12	13	14	15	16	17	18	19	20
Value	2D	d1	d2	2C	h1	h2	3A	f1	f2	03

This gray cells in the Value row of this table indicate the correct positions for each byte of data in the command string.

Place the hexadecimal value of the desired ASCII character into the command string. Enter a two digit value for the Year, Month, Day, Hour, and Minute into the command string. Each digit is a separate byte. Use the last two digits of the year for the year value (For example, 2001 is entered as 01). Time is always designated in Military Time.

Example

In this example, 14:39 on December 25, 2000 is used to demonstrate the Set Clock Command String.

	Notation Used in Value Column	ASCII Character of desired Value	Hex Value entered into command string.
Year Character #1	y1	0	30
Year Character #2	y2	0	30
Month Character #1	m1	1	31
Month Character #2	m2	2	32
Day Character #1	d1	2	32
Day Character #2	d2	5	35
Hour Character #1	h1	1	31
Hour Character #2	h2	4	34
Minute Character #1	f1	3	33
Minute Character #2	f2	9	39

The final Set Clock Command String for 14:39 in December 25, 2000 would appear as follows:

Command	1	2	3	4	5	6	7	8	9	10
Value	02	43	4C	4B	20	30	30	2D	31	32

Command	11	12	13	14	15	16	17	18	19	20
Value	2D	32	35	2C	31	34	3A	33	39	03

ASCII Status Request Messages

Command	ASCII String	Bytes in Hexadecimal
Model Name Request	S_x **MLN** E_x	02 4D 4C 4E 03
Software Version Number Request	S_x **SVN** E_x	02 73 77 4E 03
Record Mode Status Request	S_x **RMS** E_x	02 52 4D 73 03
Stop Mode Status Request	S_x **SMS** E_x	02 73 4D 73 03

ASCII Status Response Messages

Command	ASCII String
Model Name Response	S_x MLN **DSR-2000e** E_x
Software Version Number Response	S_x SVN **1.18** E_x
Record Mode Status Response	S_x RMS **0** E_x (Not Recording)
	S_x RMS **1** E_x (Recording)
	S_x RMS **2** E_x (Not Recording and Disk Full)
	S_x RMS **3** E_x (Recording and Disk Full)
Stop Mode Status Response	S_x SMS **0** E_x (Not Playing)
	S_x SMS **1** E_x (Playing)
	S_x SMS **2** E_x (Not Playing and End of Disk)
	S_x SMS **3** E_x (Playing and End of Disk)

8 FACTORY DEFAULTS

Function	Setting
Time Format	24 Hour
Date Format	MM / DD / YY
Normal Record Speed	60 pictures per seconds (NTSC) or 50 pps (Pal)
Alarm Record Speed	60 pictures per seconds (NTSC) or 50 pps (Pal)
Record Quality	High
Disk Overwrite Mode	Continuous Overwrite
Archive Overwrite Mode	(Not currently implemented)
Auto Delete Mode	Off
Background Archive Mode	Off
Video Input	Composite
Front Panel Locked	Off
Brightness	50%
Contrast	50%
Saturation	50%
Display Current Time and Date	Off
Display Record Capacity	Off
Display Last Alarm	Off
Display Archive Status	Off
Display Record or Playback Speed	Off
Display Playback Time and Date	Off
Baud Rate	9600
Hardwire Alarm	Enabled
Teletext Alarm	Enabled
Alarm Buzzer	Disabled
Multiplexer	None
Language	English
Network Time Update Interval	Disabled
Daylight Savings Time	Off
Color	Auto
Quickwave Setup	Off
DHCP	Disabled

Function	Setting
WINS	Disabled
Audio Record Setting	Off

9 TECHNICAL SPECIFICATIONS

General

Power Supply	120-240 Volt AC, Auto-Ranging adapter
Input Voltage	12 Volt DC
Power consumption	20 Watts Max.
Operating Temperature Range	Operating: 0 to 40 ºC. Storage: -20 to +60 ºC.
Relative Humidity Range (Non-Condensing)	Operating: 10% to 80%. Storage: 10% to 95%
Dimensions	Inches: 13 x 14 x 3.5 mm: 330 x 355 x 89
Weight	10 lbs. (4.5 kg)

Connections

Ethernet Port	10 / 100Mb RJ-45
Power Connector	2.1mm Barrel Connector, Center Positive
Accessory I/O Port	DB-9 Male. See Section 1.9, Accessories Port
SCSI Port	50 Way High Density, SCSI connector
RS-232 Serial Port	DB-9 Male DTE Connection
SVHS In	4-pin mini-DIN connector (See caution below)
SVHS Out	4-pin mini-DIN connector
Composite Video In	BNC connector (See caution below)
Composite Video Out	BNC connector
Audio In	RCA Jack
Audio Out	RCA Jack

Caution: Do not connect both video inputs at the same time.

Audio / Video

Video Signal Input	0.7 to 1.4 Volts peak-to-peak, with Automatic Gain Control
Video Signal Output	1 Volt peak-to-peak into 75-ohm
Input Termination	75-ohm
Colors	Y:U:V 4:2:2, 16.8 Million Colors
Gray Scale	256 Levels
Horizontal Resolution	720 Pixels
Vertical Resolution	484 Lines NTSC, 576 Lines PAL
Compression Standard	Wavelets
Audio In	RCA jack, 315mV, 40k Ohms. Unbalanced.
Audio Out	RCA jack, 315mV, 600 Ohms. Unbalanced.

On-screen Video Indicators

Archive Status	Pause	Rewind
End of Data	Play	Start of Data
Fast Forward	Record Capacity	Time and Date
Last Alarm	Reverse Play	Video Loss
Audio	Record Speed	Playback Speed

Part Numbers

Accessories PCB	0900-0127
User Manual	0150-0163
Archiving Addendum	0150-0145
WaveReader Software CD	0151-0005
WaveReader Software Manual	0150-0143

All specifications are subject to change without notice. GE Interlogix believes all specifications are correct, but no liability is assumed for omissions or errors.

10 WARRANTY AND SERVICE

10.1 Factory Service

Warning: Do not open the top cover or attempt to service the unit, as this may expose you to dangerous voltages and other hazards. Programmer maintenance of this unit is limited to external cleaning and inspection. Refer all servicing to qualified personnel.

If the unit requires factory service, contact the dealer who supplied the unit to you for the correct procedures on returning the unit to the factory or the nearest factory service center.

If the dealer is not available, contact the manufacturer of the unit as detailed below and request a Return Material Authorization number (RMA). The unit's serial number must be provided before a RMA number can be issued. Units returned to the factory for service must have freight and insurance prepaid, and must show the RMA number clearly on all shipping documents. The failure symptoms must be clearly described by the operator and enclosed with the unit together with a copy of the original suppliers invoice. Failure to comply with these instructions will delay service of the unit, and may result in the unit not being accepted by the Repair Center.

Factory Address

GE Interlogix
Attention: Repair Center
3197-C Airport Loop Drive
Costa Mesa, CA. 92626
United States of America
Telephone: 800-343-3358 (7:00 AM to 4:30 PM, Pacific Time)
In Oregon: 541-754-9133
Fax: 541-754-7162 (24 hours a day)

For warranty information, see the following page.

10.2 Warranty and Return Information

GE Interlogix warrants all of its equipment for three years from the date of purchase. This warranty covers any defects in materials and workmanship. Equipment failures that are due to improper installation, modification, abuse, or acts of nature will not be covered by this warranty. The repair department will evaluate all equipment returned for repair to determine warranty coverage. The Tech Support Manager will resolve any questions that may arise during evaluation to make a final determination.

Note: The three-year warranty does not apply to the following products:
MobileView® and the monitor CRT, which carry a 12-month warranty from the date of purchase.

The warranty specifically covers any defects in material and workmanship and does not cover equipment that has been abused, damaged, or modified.

For all warranty repairs, GE Interlogix will cover all costs, including parts, labor, and shipping. Repaired equipment will be returned via the same method of shipment in which it was received. If a customer requests a faster return shipment, the difference will be charged.

For all non-warranty repairs, the customer will be billed for parts, labor, and shipping. Labor will be billed in half-hour increments.

Note: Customers requesting an estimate prior to repair will be notified by phone. If they cannot be reached, they will be notified by fax. If we are unable to reach the contact person for repair authorization after one phone attempt and two fax attempts, the equipment will be returned without being repaired. We will hold equipment no longer than two weeks.

Advance Replacement Policy

When an advance replacement is required, we will send the customer replacement equipment from our stock and receive the returned product in exchange. The received equipment will be evaluated and the repair department will determine whether it is a warranty replacement. If it is non-warranty, see our repair policy above for details. The following guidelines will be used for all advance replacements:

- Fewer than 45 days from purchase, GE Interlogix will replace the product with new equipment.
- From 45 days to 1 year from purchase, GE Interlogix will replace the product with refurbished equipment.
- From 1 year to 3 years from purchase, the product must be sent in for repair. Advance replacements will be sent for a fee of $100.

If you have questions about this policy, please contact the GE Interlogix RMA Department at 800-469-1676.